Volume II

Industry Statistics

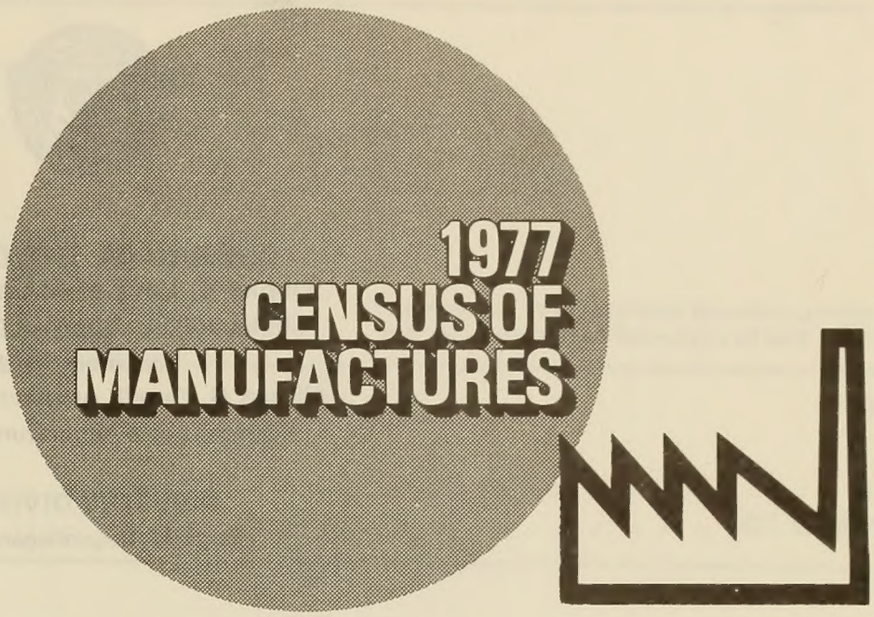
Part 3.
SIC Major Groups 35-39

1977 CENSUS OF MANUFACTURES



U. S. Department of Commerce
BUREAU OF THE CENSUS

Issued August 1981



Volume II

Industry Statistics

Part 3.
SIC Major Groups 35-39

81-5463

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ACKNOWLEDGMENTS—Many persons participated in the various activities of the 1977 Census of Manufactures. Primary direction of the program was performed by **Shirley Kallek,** Associate Director for Economic Fields, and **Richard B. Quanrud,** Assistant Director for Economic and Agriculture Censuses (until July 1981).

This report was prepared in the Industry Division under the general direction of **Milton Eisen,** Chief (until February 1980), and **Roger H. Bugenhagen,** his successor. **Arthur W. Horowitz,** assisted by **John S. Berube,** was responsible for overall management of the census and was the Division's liaison officer with other divisions.

Program responsibility was shared by the following individuals who participated importantly in the entire program. **Dale W. Gordon,** Census Durables; **Michael J. Zampogna,** Census Nondurables; **Ruth A. Runyan** (until May 1978), and **John P. Govoni,** her successor, Census Subject Reports; **Paul F. Berard,** Current Durables; **Robert J. Nealon,** Current Nondurables; and **John P. McNamee,** Minerals.

Edward A. Robinson made significant contributions to the basic economic concepts and content of the census. The mathematical techniques used in sampling the respondents were developed by **Donald F. Clark,** assisted by **Preston J. Waite, Gary L. Kusch, Stacey Cole,** and **Marlene Altman. Kenneth I. Hansen,** Chief of the Annual Survey of Manufactures Branch, assisted by **Robert Rosati** and **Stephen Raley,** was responsible for the annual survey component of the census of manufactures. Specifications for the complex computer edit were the responsibility of the staffs of the Statistical Methods and Annual Survey of Manufactures Branches. Computer programs were prepared under the direction of **Howard N. Hamilton** (until November 1978), and **William Norfolk,** his successor. Assisting were **Mary H. Johnson, Sarah W. Mathis, George Anderson, Gerald Turnage, David L. Onions, Robert Brown, Mark I. Kronisch,** and **Barbara Lambert.**

Systems and procedures for mailout and clerical processing were developed in the Economic Surveys Division by **Roger H. Bugenhagen,** Chief (until February 1980), assisted by **Andrew L. Grieco, Robert E. Crowther,** and **Joel Richardson.** Clerical procedures were developed by **Robert Brand,** assisted by **Haydn R. Mearkle, Helen L. Barton,** and **Beverly M. Eng. Walter E. Neece,** assisted by **C. Harvey Monk,** had staff responsibility for industry classification procedures. Administrative record processing specifications were developed by **Lawrence A. Blum** and **John M. Sullivan** under the direction of **Samuel Schweid.** Electronic computer programs for check-in and administrative records were developed and supervised by **Robert G. Willner** and **Donald H. Danbury** under the direction of **Paul E. Poissant.** Data input procedures were developed by **Leonard M. Tauber** and quality control procedures by **Jean F. Biggs.**

Forms design was performed in the Administrative Services Division, **Henry J. Husmann,** Chief (until August 1980). The entire staff of the Forms and Mail Management Branch made significant contributions in planning, design, review, and composition of the forms.

Within the Publications Services Division, many individuals made significant contributions in publication planning and design, editorial review, composition, and printing procurement. These operations were performed under the direction of **Raymond J. Koski,** Chief, assisted by **Milton S. Andersen, Arlene C. Duckett, Gerald A. Mann, Helen M. Curtis, Jacqueline A. Gans, John Overby, Nicholas Preftakes, Rosemary B. Vance,** and **Robert Warunek.**

Clerical and data keying operations were performed in the Data Preparation Division at Jeffersonville, Ind., under the direction of **Don L. Adams,** Chief, assisted by **Robert L. Allen, Rebecca Lamon,** and **George Wilson.** The clerical geocoding effort was directed by **Wendell McManus.**

Computer processing was directed by **C. Thomas DiNenna,** Chief, Computer Services Division. **John E. Halterman, Jesse J. Verdeja, Willie E. Clark,** and **Norman W. Larsen** provided staff assistance.

Lawrence Cox, Statistical Research Division, and **Lawrence E. Cornish,** Systems Software Division, made significant contributions by developing special-purpose computer programs for disclosure analysis and publication preparation.

Donald E. Young, Lawrence H. Lyons, and **Robert S. Taylor,** of the Office of the Assistant Director for Economic and Agriculture Censuses, participated in overall planning and review of the census operations.

Special acknowledgment is also due the many industries whose cooperation has contributed to the publication of these data.

Library of Congress Cataloging in Publication Data

United States. Bureau of the Census.
1977 census of manufactures.

CONTENTS: [1] Geographic statistics. [2] Industry reports. [3] Special reports.
1. United States—Manufactures—Statistics.
I. Title. II. Title: Census of manufactures.
HD9724.U52 1977a 338.4'7'670973 **78-606074**

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Data in this publication may differ slightly from the industry and area reports previously published. These differences are due to corrections which were made for minor errors identified after the industry and area reports were issued. This report reflects these corrections.

All errors identified in any phase of the review were carried to the computer file used to produce the final subject and special reports. Therefore, those reports represent the most accurate data available.

INTRODUCTION

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I. General Background

1. HISTORY OF THE ECONOMIC CENSUSES

General—The economic censuses provide a comprehensive statistical profile of a large segment of the national economy. This program includes censuses of manufactures, retail trade, wholesale trade, service industries, mineral industries, and construction industries. In 1977, these industries accounted for nearly 61 percent of the $1,894.5 billion of the gross domestic product and 70 percent of that originating in the private sector. The principal industry groups not covered were finance, insurance, and real estate; agriculture and forestry; communications; electric, gas, and sanitary services; and transportation. Limited information on transportation is collected, e.g., truck registration and distances travelled, and shipments of commodites by type of transport and distance shipped.

Uses and users of census data—The economic censuses are the primary source of facts about the structure and functioning of a major part of the economy. They are used extensively in compiling the benchmark measures of the national accounts. Census data also serve as weights or benchmarks for indexes of industrial production, productivity, and price; as well as many current surveys of industrial activity.

There is widespread use of the economic censuses, by the Government, in setting economic policy and monitoring economic programs. Manufacturers and distributors rely on census data to measure their potential geographic and industrial markets. The censuses provide the facts needed for economic forecasting; analysis of sales performance; the layout of sales territories; the allocation of advertising budgets; and the location of plants, warehouses, and stores. Trade and professional associations rely on census information to determine how their industries are changing; chambers of commerce and State and local governments depend on them to assess changes in the business structure in their areas. Business magazines and academic researchers rely on census facts as background for many of their articles.

Census reports are purchased by thousands of business and other users; census data are republished and widely circulated by trade associations, business journals, and the daily press; and census volumes are available in all the major public and college libraries.

History—The first economic type census covered the year 1809, when inquiries on manufacturing were included with the 1810 Census of Population. By modern standards, the results of this

pioneer effort would be considered unsatisfactory.[1] However, continued interest in the Nation's economic growth led to successive improvements in economic census-taking during the 19th century. By 1890, the statistical standards and procedures followed in censuses reached a full professional quality.

All of the decennial censuses from 1810 through 1940, with the exception of 1830, included questions on manufacturing. Inquiries on mining first appeared in 1840, and censuses of mineral industries were conducted decennially through 1940. Although some business-related data were collected in 1840, the first census of business was taken for the year 1929. This included retail trade, wholesale trade, and construction; beginning with 1933, selected service trades were covered. Dates of these and other economic censuses from 1809 are shown in table A.

Enterprise statistics—Through the history of the economic censuses, the unit of enumeration has been the establishment—i.e., a single physical location engaged in a specific line of business (for more discussion, see section 8). This unit is best suited for obtaining measures of direct output and input—labor, material, capital, etc. It is also best suited for providing refined industry and geographic tabulations. Statistics measuring overall income and balance sheet data are best collected at the company or enterprise level. In the early 19th century, these two business units were often identical. With the rise of large-scale operations, it became quite common for the large companies to operate separate manufacturing establishments in a number of diverse industries so that today the establishment and enterprise frequently are not the same. Enterprise measures and balance sheet data have typically been provided by the Internal Revenue Service (IRS) in its Statistics of Income and Federal Trade Commission (FTC) in its Quarterly Financial Report of Corporations.

The Bureau of the Census, as a result of the coordinated collection and tabulation of comparable data for several economic sectors in 1954, also developed an enterprise statistics

Table A. **Years Covered by U.S. Economic Censuses: 1809 to 1977**

Year covered	Manufactures	Mineral industries	Fisheries	Construction industries	Retail trade	Wholesale trade	Service industries[1]	Transportation[2]
1809	X	-	-	-	-	-	-	-
1819	X	-	-	-	-	-	-	-
1839	X	-	-	-	-	-	-	-
1840	-	X	-	-	-	-	-	-
1849	X	-	-	-	-	-	-	-
1850	-	X	-	-	-	-	-	-
1859	X	-	-	-	-	-	-	-
1860	-	X	-	-	-	-	-	-
1869	X	-	-	-	-	-	-	-
1870	-	X	-	-	-	-	-	-
1879	X	-	-	-	-	-	-	-
1880	-	X	X	-	-	-	-	-
1889	X	X	X	-	-	-	-	-
1899	X	-	-	-	-	-	-	-
1902	-	X	-	-	-	-	-	-
1904	X	-	-	-	-	-	-	-
1908	-	-	X	-	-	-	-	-
1909	X	X	-	-	-	-	-	-
1914	X	-	-	-	-	-	-	-
1919	X	X	-	-	-	-	-	-
1921	X	-	-	-	-	-	-	-
1923	X	-	-	-	-	-	-	-
1925	X	-	-	-	-	-	-	-
1927	X	-	-	-	-	-	-	-
1929	X	X	-	X	X	X	-	-
1931	X	-	-	-	-	-	-	-
1933	X	-	-	-	X	X	X	-
1935	X	X	-	X	X	X	X	-
1937	X	-	-	-	-	-	-	-
1939	X	X	-	X	X	X	X	-
1947	X	-	-	-	-	-	-	-
1848	-	-	-	-	X	X	X	-
1954	X	X	-	-	X	X	X	-
1958	X	X	-	-	X	X	X	-
1963	X	X	X	-	X	X	X	X
1967	X	X	X	X	X	X	X	X
1972	X	X	-	X	X	X	X	X
1977	X	X	-	X	X	X	X	X

- Not published. X Published.

[1]Actual coverage varied from census to census. [2]Limited information only.

[1] For an appraisal of early censuses of manufacturing, see Meyer H. Fishbein, The Censuses of Manufactures 1810-1890. National Archives Publication No. 63-22, June 1963, Government Printing Office.

program. This program relates census company-level data to data measuring the activities of individual operating units or establishments within the companies. Thus, a measurement of the integration and diversification of the American enterprise system became available. The enterprise statistics program also made it possible to link census establishment-based data on a modified basis to enterprise-based statistical systems such as the IRS's Statistics of Income for Corporations.

Legal provisions—The periodic economic censuses are required by law. Title 13 of the United States Code specifies the frequency of the censuses, the kinds of activities to be covered, the obligation to report, the penalties for failure to report, and the confidentiality of returns. It also authorizes the use of sampling techniques in conducting censuses. As amended in 1964, Title 13 requires the economic censuses to be taken at 5-year intervals, covering the years ending in "2" and "7." The next censuses will cover the year 1982 and will include the census of agriculture, which has been customarily conducted on a different time sequence from the other economic censuses. The pertinent portions of Title 13 are quoted in appendix E.

2. CHARACTERISTICS OF THE INDUSTRIAL SECTOR

General—Manufacturing is the largest sector of the economy. In 1977, manufacturing plants employed nearly 20 million persons, or 20 percent of the civilian labor force of 97.4 million. As shown in table B, gross domestic product (GDP) originating in manufacturing averages almost 24 percent of the total. Wholesale and retail trade combined was the next largest sector with 17 percent of the GDP.

Cyclical changes—The need for frequent and comprehensive statistics on manufacturing derives as much from its sensitivity to cyclical influences as from its relative size. Cyclical changes in income originating in manufacturing tend to be relatively larger than in the economy as a whole, as can be seen in the movement of national income originating in manufacturing from 1929 to 1933 to 1939 in table C.

Within manufacturing, durable goods industries accounted for about 60 percent of all manufactures during recent periods. This category tends to be more volatile than nondurable goods,

Table B. **Gross Domestic Product, by Industry, for Selected Years: 1947 to 1977**

Industry	1947	1954	1958	1963	1967	1972	1977
	Billions of dollars						
Gross national product[1]	233.1	366.8	449.7	596.7	799.6	1,185.9	1,918.0
Gross domestic product[1]	231.8	364.5	446.6	591.8	793.7	1,175.0	1,894.5
Manufacturing	66.2	106.4	123.8	167.4	222.3	292.5	462.4
Nondurable goods	32.7	45.6	54.1	69.8	88.7	119.3	185.3
Durable goods	33.5	60.8	69.7	97.6	133.6	173.2	276.6
Wholesale and retail trade	44.2	60.9	75.2	96.1	130.1	199.5	322.5
Government and government enterprises	19.3	36.9	47.1	65.9	96.3	155.4	237.2
Services	20.2	30.5	42.3	60.0	86.1	136.5	234.3
Finance, insurance, and real estate	23.2	46.5	62.4	85.3	114.2	169.8	274.0
Contract construction	9.1	17.2	21.0	27.4	37.5	59.4	86.7
Transportation	13.6	18.1	20.9	24.9	32.1	45.6	71.2
Agriculture, forestry, and fisheries	20.8	20.7	21.9	22.0	24.2	35.4	53.8
Electric, gas, and sanitary services	3.8	8.0	10.7	14.9	18.5	28.8	49.9
Communication	3.1	6.5	8.9	13.1	18.0	29.8	49.4
Mining	6.8	10.9	12.4	13.1	14.6	19.0	48.6
Rest of the world[1]	-	-	-	-	-	-	-
	Percent of gross domestic product						
Gross national product[1]	-	-	-	-	-	-	-
Gross domestic product[1]	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	28.7	29.2	27.7	28.3	28.0	25.0	24.4
Nondurable goods	14.2	12.5	12.1	11.8	11.2	10.2	9.8
Durable goods	14.5	16.7	15.6	16.5	16.8	14.8	14.6
Wholesale and retail trade	19.2	16.7	16.8	16.2	16.4	17.0	17.0
Government and government enterprises	8.4	10.1	10.5	11.1	12.1	13.3	12.5
Services	8.8	8.4	9.5	10.1	10.8	11.6	12.4
Finance, insurance, and real estate	10.1	12.8	14.0	14.4	14.4	14.5	14.6
Contract construction	4.0	4.7	4.7	4.6	4.7	5.1	4.6
Transportation	5.9	5.0	4.7	4.2	4.0	3.9	3.8
Agriculture, forestry, and fisheries	9.0	5.7	4.9	3.7	3.0	3.0	2.8
Electric, gas, and sanitary services	1.7	2.2	2.4	2.5	2.3	2.5	2.6
Communication	1.3	1.8	2.0	2.2	2.3	2.5	2.6
Mining	3.0	3.0	2.8	2.2	1.8	1.6	2.6
Rest of the world[1]	-	-	-	-	-	-	-

[1]Gross national product is the market value of goods and services produced by labor and property supplied by residents of the United States. Gross domestic product is the value of goods and services attributable to labor and property located within the United States. It equals GNP less the "Rest of the world" which is the net inflow of labor and property income from abroad.

generally accounting for a smaller percentage of all manufactures during periods of contraction and a larger percentage during periods of expansion. In the early thirties, for example, as shown in table C, durable goods manufacturing fell to only about one-third of the total.[2]

Geographic distribution—In the early and middle 19th century, manufacturing activity was concentrated in the Northeast. Over the past 130 years, as shown in table D, there has been a steady decline in the proportion accounted for by the Northeastern States. Industry expanded into the north central region in the

Table C. **Total National Income and Amounts Originating in Durable and Nondurable Manufactures for Selected Years: 1929 to 1977**

Year	Gross national product[1] (bil. dol.)	Gross domestic product[1] (bil. dol.)	National income without capital consumption adjustment[1] (bil. dol.)	National income originating in manufacturing			Manufacturing as a percent of national income (D÷C)	Durable goods industries as a percent of total manufacturing (F÷D)
				Total (bil. dol.)	Nondurable goods industries (bil. dol.)	Durable goods industries (bil. dol.)		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1977	1,918.0	1,894.5	1,582.6	411.5	162.9	248.6	26	60
1976	1,718.0	1,697.5	1,413.0	366.6	149.9	216.7	26	59
1975	1,549.2	1,531.9	1,267.4	317.7	132.1	185.6	25	59
1974	1,434.2	1,414.4	1,176.8	301.4	120.6	180.8	26	60
1973	1,326.4	1,310.4	1,094.1	285.3	108.7	176.7	26	62
1972	1,185.9	1,175.0	969.9	252.3	98.3	154.0	26	61
1971	1,077.6	1,068.5	878.1	226.5	92.1	134.5	26	59
1970	992.7	985.4	814.8	215.1	87.7	127.4	26	59
1969	944.0	937.1	780.8	221.9	85.7	136.2	28	61
1968	873.4	866.7	722.7	212.7	81.6	129.4	31	59
1967	799.6	793.7	661.5	193.7	74.8	119.0	29	61
1966	756.0	750.3	627.0	189.7	72.2	117.5	30	62
1965	691.1	685.2	571.1	171.3	65.9	105.4	30	62
1964	637.7	632.3	524.2	154.2	61.3	93.2	29	60
1963	596.7	591.8	488.6	143.8	57.5	86.3	29	60
1962	565.0	560.5	463.4	136.1	55.1	81.0	29	60
1961	524.6	520.7	433.3	125.1	52.7	72.4	29	58
1960	506.5	502.9	420.8	125.1	51.9	73.2	30	59
1959	487.9	484.6	406.8	124.3	51.2	73.1	31	59
1958	449.7	446.6	373.4	107.9	45.8	62.1	29	58
1957	444.0	440.5	371.7	116.3	46.4	70.0	31	60
1956	421.7	418.5	355.7	113.2	46.3	66.9	32	59
1955	400.0	397.3	335.5	108.0	44.0	63.9	32	59
1954	366.8	364.5	307.2	94.7	39.7	55.0	31	58
1953	366.8	364.6	309.0	100.5	40.3	60.2	33	60
1952	348.0	345.7	295.5	92.6	38.3	54.3	31	59
1951	330.8	328.7	281.7	90.3	38.4	51.9	32	57
1950	286.5	284.8	244.0	76.3	33.4	42.9	31	56
1949	258.3	256.9	220.1	64.8	30.6	34.3	29	53
1948	259.5	257.9	226.7	68.8	32.9	35.9	30	52
1947	233.1	231.8	201.0	59.6	28.1	31.5	30	53
1943	192.1	191.6	171.5	58.3	19.6	38.6	34	66
1939	90.9	90.5	73.2	18.1	9.1	9.0	25	50
1935	72.5	72.1	57.6	13.4	7.3	6.1	23	46
1933	55.8	55.5	40.6	7.7	4.9	2.8	19	36
1932	58.3	57.9	43.1	7.3	5.2	2.1	17	29
1929	103.4	102.6	87.2	21.9	10.6	11.3	25	52

[1]Gross national product is the market value of goods and services produced by labor and property of residents of the United States. Gross domestic product is the value of goods and services produced within the United States. National income is gross national product less capital consumption allowances, indirect business taxes, and business transfers plus subsidies less surplus of government enterprises.

Source: Survey of Current Business.

[2]Based on national income rather than gross domestic product (GDP). Industry detail for GDP is available only from 1947; whereas, industry detail for national income is available from 1929 and encompasses the very depressed period of the 1930's.

Table D. **Employment in Manufacturing Establishments by Region: 1849 to 1977**

Year	United States	North-east	North Central	South	West
	Number of employees (thousands)				
1977	19,590	5,008	6,272	5,593	2,717
1972	19,029	5,306	6,135	5,221	2,367
1967	18,492	5,573	6,059	4,553	2,305
1963	16,235	5,190	5,239	3,780	2,025
1958	15,423	5,242	5,017	3,382	1,779
1947	14,294	5,429	5,109	2,710	1,054
1939	9,527	3,879	3,184	1,852	612
1929	10,198	4,246	3,516	1,758	675
1899	5,077	2,629	1,474	793	181
1849	957	696	110	146	4
	Percent of U.S. total				
1977	100	26	32	29	14
1972	100	28	32	27	13
1967	100	30	33	25	12
1963	100	32	32	23	13
1958	100	34	33	22	12
1947	100	38	36	19	7
1939	100	41	34	20	6
1929	100	42	35	17	7
1899	100	52	29	16	4
1849	100	73	12	15	-

Note: Detail may not add to totals because of independent rounding. 1849 data include hand and neighborhood industries, which were excluded from the censuses of manufactures beginning with 1899.

Source: Census of Manufactures.

latter part of the 19th century and, in more recent years, displayed a marked growth in the South and West.

Size distribution—Manufacturing activity tends to be characterized by relative large-scale operations. While there are many small manufacturing plants, they account for a relatively small part of the total output of goods. As shown in table E, over half of the plants covered in the 1977 Census of Manufactures were very small, employing less than 10 workers, but they accounted for less than 3 percent of total manufacturing activity as measured by value added by manufacture. (See appendix A for definition of value added).

Table E. **Number of Establishments and Value Added by Manufacture by Size of Establishment: 1977**

(Cumulative percentage)

Employment size class	Establishments	Value added by manufacture
All establishments	100.0	100.0
1 to 4 employees	40.1	1.0
1 to 9 employees	53.8	2.4
1 to 19 employees	67.6	5.2
1 to 49 employees	82.3	12.2
1 to 99 employees	89.9	20.5
1 to 249 employees	96.0	36.3
1 to 499 employees	98.3	51.0
1 to 999 employees	99.3	65.8
1 to 2,499 employees	99.8	80.1

3. CENSUS OF MANUFACTURES—BENCHMARK STATISTICS

In the farm-oriented economy of the early 19th century, the need for industrial statistics for setting government policy, except for tariffs and taxes, was slight. A few series on physical output of commodities originated either from private sources (flour, iron, steel, etc.) or as a byproduct of tax collection or other government functions (liquors, beer, tobacco products, etc.). The only sources of information on the growing manufacturing sector were the censuses of manufactures, then taken at 10-year intervals. Today, the need for industrial statistics has greatly increased so there is now a vast array of detailed information covering virtually every measurable aspect of industrial activity including employment; payrolls; hours worked; production; prices; inventories; orders; investment in structures, machinery, and equipment; and consumption of raw materials, fuels, and water. Many of these statistics are available at frequent intervals and very promptly after the close of the accounting period. Sophisticated indicators of economic change have also been developed, such as price and production indexes and the gross national product accounts that are published at monthly or quarterly intervals.

The census of manufactures, though conducted only at 5-year intervals, still plays an essential role since no other source measures the structure of the industrial sector in such a comprehensive and detailed way.

For every manufacturing plant with one employee or more, the census obtains data on its input of labor, materials, and capital; its output of products and services; its location; and the legal form of organization of the owning firm.[3]

A set of summary of general statistics are developed for each establishment (that is, total employment, payroll, number of production-worker hours and wages, cost of materials, value of shipments, inventories, capital expenditures, and value added by manufacture) and aggregated by industry, by area, by employment size of establishment, by degree of product specialization within plant, and by type of ownership. Reports are published on the detailed industrial characteristics of each State and large standard metropolitan statistical area (SMSA); and overall measures of manufacturing activity are shown at the county and individual city level provided the information can be published without compromising the confidentiality of individual company data. Since census legislation guarantees confidentiality to the firms that are required to report, it is frequently necessary to suppress some aggregates. Since a significant amount of industry detail cannot be published for the 3,140 counties and county equivalents in the United States, a special computer tape on Location of Manufacturing Plants was developed to provide a complete industry-county cross-section description of manufacturing. This tape includes the number of establishments in each of the 450 industries by county or county-equivalent area, by employment size. Comparison of this complete profile between censuses is used to study shifts in the geographic dispersion of industries and the industrial structure of local areas.

[3] Since 1967, some of this information for 120,000 small companies was not obtained directly but estimated from other government records. See the discussion of coverage of establishments in items 4 and 6.

The census of manufactures also facilitates the conduct of more frequent surveys on a sample basis. In fact, the present legislation specifying that censuses be conducted every 5 years authorizes an annual survey of manufactures (ASM) on a sample basis during the intervening years. The 5-year census provides the framework for selecting a new sample and the periodic universe levels to benchmark the sample estimates. The sample includes about one-fifth of all establishments. All large establishments are included in every sample; the smaller are selected proportionately to their size and are replaced at the end of each census. Thus, there is an annual updating of the census of manufactures in terms of broad measures of economic activity. The ASM contains the same basic measures of economic activity of the plant such as employment, payrolls, value of shipments, value added by manufacture, as does the census of manufactures, but obtains less detailed information on products, materials consumption, and equipment.[4]

The census of manufactures also is used to update other indicators of economic activity, especially the national income accounts. Census data on materials consumed and product output by industry are basic to the input-output matrix developed by the Bureau of Economic Analysis (BEA) for the manufacturing sector. The Federal Reserve Board's monthly Index of Industrial Production—a key indicator of current economic activity—relies on census industry and product data as benchmarks and weights to sum industries to higher levels of aggregation. The census and ASM also provide benchmarks for hundreds of monthly and quarterly surveys of commodity output conducted by the Bureau of the Census, other government agencies, and by manufacturers' associations.

4. INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Structure of the SIC System—The establishments in the census of manufactures are classified according to the SIC Manual. The SIC Manual covers the entire field of economic activities, subdivided as follows:

Industrial division	Title	Major groups
A	Agriculture, forestry, and fisheries	01-09
B	Mining	10-14
C	Contract construction	15-17
D	Manufacturing	20-39
E	Transportation, communication, electric, gas, and sanitary services	40-49
F	Wholesale and retail trade	50-59
G	Finance, insurance, and real estate	60-67
H	Services	70-89
I	Public administration	91-97
J	Nonclassifiable establishments	99

Below the major group level, the SIC provides for 3-digit groups and finally for 4-digit industries. To illustrate—

Division D—Manufacturing

Major Group. . . . . Food and kindred products
Industry group 202 . . . . . Dairy products
Industry 2023. . . . . Condensed and evaporated milk

The SIC system was developed to classify establishments as distinguished from similar systems used to classify companies or enterprises. An establishment is defined as a single physical location engaged in one of the industry categories of the SIC. (See pp. 1-9 for the application of this definition to collecting data in the economic censuses.)

This SIC system is the responsibility of an intragovernmental technical committee headed by the Office of Federal Statistical Policy and Standards, formerly part of the Office of Management and Budget, but transferred to the Department of Commerce in 1977. The system is used by all Federal Government agencies engaged in the classification of establishments. Many State and local governments and business concerns also organize their own records along SIC system lines in order to facilitate comparison with federal statistics.

The first SIC Manual was issued in 1939. For the manufacturing sector, the nucleus was the set of industry classifications developed over many years for use in the census of manufactures. A revised manual was issued for the manufacturing industries in 1945 and with minor modifications, used in the 1947 and the 1954 Censuses of Manufactures. In 1957, the SIC Manual was extensively revised for manufacturing industries and the historical comparability of some data was seriously affected. The introduction and appendixes to the 1958 census volumes discuss in detail this revision and its effects on census series. Only minor revisions of the SIC Manual were made between 1958 and 1967. The next extensive revision of the SIC Manual affecting the comparability of industry data was completed in 1972. These revisions and their impact on comparability appear in appendix C of the 1972 Census of Manufactures volumes.

Structure of the Manufacturing SIC System—For manufacturing, there are 20 2-digit SIC Major Groups (20 to 39) which are subdivided in 144 3-digit SIC Groups (201 to 399) and into 452 4-digit industries (2011 to 3999). The Bureau of the Census combined some small industries in order to publish data.

Most of the 452 manufacturing industries are defined in terms of specific groups of related products. Usually the products are made of similar materials and by similar processes and many are competitive but the SIC system does not necessarily bring together products which are close substitutes

[4] Since the ASM is based on a sample, the cross-classifications by industry and by area are fewer than in the census of manufactures. At the U.S. level, statistics are published in the annual survey for practically all of the 450 industries. However, at the SMSA level, statistics are published only for 3-digit and 2-digit industry groupings. At the county level, information is published for about 10 percent of the 3,140 counties and equivalent areas. These 300 odd counties are the larger ones in terms of manufacturing activity and account for about 80 percent of total manufacturing employment. Data for cities are shown for those cities having over 20,000 manufacturing employees.

in use and competitive in markets. In determining the boundaries of industries,[5] it is essential that each industry comprise a group of establishments that are highly specialized in making products that define the industry (primary products) and that a large proportion of all the products be made in establishments classified in the industry. While similarity of product is most frequently the determining factor in defining an industry, some industries are defined in terms of the processes or equipment used regardless of the final product of the establishment. (Example: Industry 3361, Aluminium Foundries (castings).) A small number of industries are basically defined by material used as well as final product of the plant. (Example: Industry 2521, Wood Office Furniture, and Industry 2522, Metal Office Furniture.)

There are wide differences among industries in their purity—i.e., the extent to which the establishments classified in the industry:

a. Account for the total production of commodities "primary" to the industry.
b. Produce products or services "belonging" to other industries (that is, secondary products).
c. Use similar materials or processes.

These variations are frequently construed to be shortcomings. However, these limitations in the classification structure arise from the inherent complexity of our economic system and from the variation in types of production that take place in individual establishments.

While the SIC system is the basis for aggregating census data, the data collected, in turn, provide the statistical basis for periodic critical evaluation of that classification system and its revision.[6]

No general-purpose system of industrial classification can satisfy all users of census data. Some business users are interested primarily in a narrow range of products which they and their competitors produce. Others are involved in a wide range of products that move through the same marketing channel. Others seek data relating to the consumers of one or more types of materials. Some are interested only in the data for highly specialized plants; others for plants producing a "full line" of products. Those studying productivity may require data for plants using the same techniques.

The large number of SIC industries provides the analyst with the "building blocks" for making useful approximations, even if specific data cannot be developed to resolve many of these problems. A single general-purpose system of classification can only partially satisfy these diverse needs; a point is soon reached at which the adaptation of a system to serve one use better will reduce its ability (sometimes disproportionately) to serve an alternative use.

Accordingly, users of data frequently reqroup detailed SIC industries differently from the 2- and 3-digit SIC categories. The Federal Reserve Board for many years has made combinations to stress such characteristics of products as durable, nondurable, consumer, producer, finished, intermediate goods, etc. Other public and private agencies also recombine the detailed classes. The 4-digit industries are more susceptible to allocation to such categories than the 2-digit SIC groups.

Subindustries—The Bureau of the Census frequently has further classified some of the basic 4-digit SIC industries into "subindustries." Subindustries are employed where there are wide disparities in the input-output relationships (or operating ratios) of the plants in the industry because of differences in the degree of vertical integration, technology, methods of distribution, geographic location, types of materials used, etc. In about 61 manufacturing industries, subindustries were established for editing purposes and many were regarded as significant enough to be used for publication. For example, the bakery industry (SIC 2051) is subdivided into wholesale bakeries, chain-store bakeries, home-service bakeries, and retail multioutlet bakeries; and many apparel industries (major group 23) are subclassified into manufacturers, contractors, and jobbers.

To provide a further measurement of variations with 4-digit industries, the Bureau of the Census also subclassified establishments by the degree to which they produce the primary products or specific classes of primary products of the 4-digit industry into which they are classified. This is, in effect, a subindustry classification based on the degree of product specialization which is published in table 5a in the industry statistics chapters.

Definition of manufacturing—Manufacturing includes a wide range of activities as defined in the SIC Manual. Manufacturing is the mechanical or chemical transformation of inorganic or organic substances into new products. The assembly of component parts of products is also considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills, which characteristically use power-driven machines and materials-handling equipment.

Manufacturing production is usually carried on for the wholesale market, for transfer to other plants of the same company, or to the order of industrial users. Typically, manufacturers do not sell directly to the household consumer, although some (for example, baking, milk bottling, etc.) sell, chiefly at retail, to household consumers through the mail, through house-to-house routes, or through salesmen. Some service-type activities (enameling, binding, platemaking, etc.) are included in manufacturing if they are performed primarily for trade; but are considered nonmanufacturing if they are performed primarily to the order of the household consumer. On the other hand, some manufacturing industries include business firms which perform only the entrepreneurial functions

[5] Frequently, business analysts and other data users look at a group of products from more than one point of view. For example, modern high-speed computers are classified as office machines. This describes the purpose of the product. In a physical sense, however, such computers would be described as electronic devices. Similarly, paper bags, wooden boxes, glass bottles, tin cans, and steel barrels may all be classified as containers, or they may be individually grouped with other products of similar materials, such as converted paper products, wood products, glass products, etc.

[6] See Industry Classification and Sector Measures of Industrial Production by James W. McKie, Bureau of the Census Working Paper No. 20, 1965, and Historical Comparability of Census of Manufactures Industries, 1929-1958 by Harold T. Goldstein, Bureau of the Census Working Paper No. 9, 1959.

of buying the materials and designing and marketing the product, but have the actual production done on contract (for example, apparel jobbers).

SIC classifies establishments—The SIC system is an establishment classification system, and the census of manufactures is conducted on an establishment basis. That is, a company with operations at more than one location is required to submit a report for each location. On the other hand, a company engaged in distinctly different lines of activity at one location is required to submit a separate report for each activity if the plant records permit such a separation and if the activities are substantial in size.

The requirement that distinct lines of activity at the same location be separately reported was applied only where the establishment produced and shipped significant amounts of products classified in different SIC industries. In widely varying degrees, many manufacturing establishments make products that fall into different SIC industries. Generally, the amounts involved are not significant enough to warrant the filing of separate reports, even if feasible. However, there are a number of locations at which large numbers of employees are engaged in activities defined in different industries of the SIC system. Frequently, companies organize their operations and their records separately for the diverse activities and report them as separate plants. When they do not do so on their own initiative, the Bureau of the Census requests separate reports if it appears that 100 or more employees are involved in each activity. For the most part, companies have cooperated and "split out" the different activities which would otherwise significantly distort the relationship of the industry and product statistics. Not infrequently, however, the two groups of products are made on the same production lines by many of the same employees and cannot be distinguished sufficiently in company records to provide establishment-type reporting.

The SIC system also recognizes special situations where otherwise separately classifiable activities frequently occur at one location. For example, the definition of Industry 2421, Sawmills and Planing Mills, recognizes that sawmills may include logging operations. Similarly, pulpmills operated in combination with papermills are included in one report.

Establishments included in census of manufactures—For the 1947 Census of Manufactures, the censuses have included only establishments with one employee or more. Prior to 1947, different criteria were used to determine if an establishment had to report in the census. In the censuses of 1921 through 1939, establishments with less than $5,000 value of products were excluded. For 1899 to 1919, the limit was $500. The change in the minimum-size criterion to an employment basis in 1947 did not appreciably affect the overall comparability of earlier census figures, except for the number of establishments.[7]

A sample survey of manufacturing plants with no paid employees was conducted in conjunction with the 1958 census. While there were nearly 52,000 establishments in this category in that year, they accounted for only about one-quarter of 1 percent of the total value of shipments of all manufacturing industries. The proportion was higher for certain industry groups such as lumber and wood products, and printing and publishing. Tabulation of IRS data for 1977 indicates that manufacturers with no paid employees continue to be of very minor importance. They contribute less than one half of 1 percent of the total value of shipments of all manufacturing industries.

Special treatment of very small establishments—Beginning with the 1967 census, an effort was made to relieve the very small establishments from the necessity of filing a census report. Approximately 120,000 small single-unit manufacturing firms identified as having less than 10 employees benefited from this procedure. Limited data on payrolls, sales, and industry classification from the administrative records of the Social Security Administration (SSA) and the IRS were made available to the Bureau of the Census for use in the 1967, 1972, and 1977 economic censuses. (These special arrangements safeguarded the confidentiality of both tax and census records.) Data other than payrolls and sales for these small establishments were estimated from historical industry ratios. The effect on industry aggregates is slight in most industries; for manufacturing as a whole, these small "administrative records" account for only 1.2 percent of the value added. Detailed product and materials data for these small establishments were not estimated; the entire value of product shipments and cost of materials was imputed to a "not specified by kind" (n.s.k.) category. If these establishments had been included in the 1972 Census of Manufactures, they were assigned the industry classifications to which they had been coded. If they had started business later, they were coded on the basis of brief descriptions of the general activity of the establishment as reported to the SSA. Where the description is incomplete or there are relatively fine lines of demarcation between industries or between manufacturing and nonmanufacturing activity, the code assigned to an establishment could differ from that which would have been assigned on the basis of more complete product information. Therefore, the Bureau of the Census conducted a special classification survey in order to clarify the industry codes of some of the establishments in the adminstrative record file. All establishments without specific 4-digit codes and those where there could be significant misclassification between manufacturing and other sectors were sent such a questionnaire. Nevertheless, the total establishment counts in most industries should be viewed as approximations rather than precise measurements. The counts for establishments with 20 employees or more are far more reliable than the total number of establishments.

Auxiliary units—Manufacturing requires a wide range of diverse support activities. These activities include movement to the manufacturing plant, storage, the operation and maintenance of plant and equipment, the design of flow of work through the production process, and necessary arrangements for shipment of output to customers. Also included are a host of subsidiary activities associated with the operation of an establishment (for example, management and policy formation, product and market orientation, engineering and quality control,

[7] This point is discussed at greater length in the Introduction to the 1947 volumes.

recordkeeping and accounting, physical security of plant and equipment, and the like).

Support and subsidiary activities may be performed by personnel located at the manufacturing establishments or at a separate location serving one or more manufacturing locations of the same company. These separate locations are referred to as administrative offices and auxiliaries, where these activities are carried on at a different physical location or are performed for more than one plant, they are excluded from the figures for operating manufacturing establishments and are included in the data shown for administrative offices and auxiliaries. (See the description of the questionnaire used for these establishments, form NC-X6, in item 7.)

Border-line activities—The following types of activities, while having some of the characteristics usually found in manufacturing, are considered as nonmanufacturing and, therefore, are excluded from the census:

a. Processing on farms when the raw materials are grown on the farm and the manufacturing activities (poultry dressing, milk and butter production, logging, etc.) are on a small scale without extensive use of paid labor. Also custom milling, egg hatching, cotton ginning, and similar activities closely associated with agriculture are excluded.
b. Mineral preparation such as the crushing, screening, and concentrating of ores. However, mining performed as a secondary activity in conjunction with manufacturing is included in the census unless a separate report for the mining activity was filed; for example, stone and clay mining at cement, lime, and clay products plants.
c. Custom work to the individual order of household consumers. Examples are custom tailoring, woodworking, lettering on monuments, setting of diamonds, and the making of orthopedic appliances.
d. Repair and other service activities, except specified services performed "for the trade." Repair shops of railroads are also excluded.
e. Production of coke "for own use" by establishments owned by public utility companies.

Census establishment-based data measures manufacturing as primary activity. In the census of manufactures, no attempt is made to measure the extent of manufacturing at locations which are not primarily manufacturing plants, such as retail establishments which sell most of their products on the premises directly to household consumers (retail bakeries,[8] ice cream stores, etc.), or manufacturing by construction contractors at the site (for example, production of paving mixtures).

Conversely, it is not unusual for manufacturing establishments to engage also in some nonmanufacturing activities such as repair work, merchandising of products without further processing, and installation work. Ordinarily, these nonmanufacturing receipts are small in relation to the manufacturing activities and, therefore, it is not difficult to determine that the establishments should be included in the manufactures area. However, if the nonmanufacturing activities account for a significant proportion of total receipts of an establishment, the classification of that establishment into the appropriate major economic sector is more difficult.

In the economic censuses, an establishment engaged in a combination of manufacturing and merchandising is assigned either to the manufacturing or the trade industries depending on which of these activities was estimated to account for the larger share of its "value added" or "income produced." This criterion, even though based on approximation, was considered preferable to treating each dollar of receipts from each type of activity equally in determing the primary industry, since manufacturing requires considerably more worker-hours, salaries and wages, and capital inputs per dollar of receipts than either wholesaling or retailing. However, in classifying establishments engaged in manufacturing and also in mining, repair work, installation, construction, or other nonmanufacturing services, dollar receipts were used as the basis of classification because these activities require substantially comparable input per dollar of receipts.

Product codes—The SIC coding system is designed to describe industries and operates in such a way that the definitions become progressively narrower with successive additions of numerical digits. There are 20 very broad 2-digit groups, 144 3-digit groups, and 452 4-digit industries. Based on the SIC Manual, the Bureau of the Census has developed a product coding system along similar lines which contains about 1,500 5-digit product classes and approximately 13,000 individual 7-digit products. (See "the classification of products and materials" below.) The 7-digit products and 5-digit product classes are considered the primary products of the industry with the same first four digits as the product code. For example, the 7-digit product code number 2023212 refers to canned evaporated milk. The first five digits of this code number, 20232, refer to the "product class" canned milk, and the first four digits, 2023, refer to the industry in which these products are made (the condensed and evaporated milk industry). The same system is applied to the coding of materials. The first four digits of a material code (for example, the code number 024111, whole milk used as a material) describe the industry that produces it; e.g., 0241, agricultural industry, dairy farms.[9]

This SIC-based system is simpler than other systems for the coding of industrial products and materials used, since there is a direct numerical relationship between commodities and industries. Complications occur in the few SIC industries defined in terms of processes or equipment used as well as products made. As an example, women's sweaters are produced in knitting mills (industry 2253) and also in cut-and-sew shops (industry 2339). To retain the industry-of-origin concept, therefore, it is necessary to assign different product code numbers to women's sweaters, depending on where they are made.

The SIC-based commodity classification is used in the Bureau of the Census' entire industrial statistics program, including

[8] Separate data for retail bakeries with baking on the premises were included in the retail census publications.

[9] See tables 6a and 7 in volume II.

monthly, quarterly, and annual surveys, and also in the census of wholesale trade. The Bureau of the Census also publishes data on imports and exports in terms of SIC-based categories as well as the traditional Schedule B and TSUSA systems.[10]

Primary and secondary products of establishments shown in the industry statistics chapters—An establishment is classified in a particular industry if its production of the primary products of that industry exceeds in value its production of products of any other single industry. The industry code assigned to the establishment is derived from a summation of values for 7-digit product codes to their 4-digit industry and the selection of the largest 4-digit value as the establishment's industry classification. However, as mentioned earlier, the industry classification of an establishment may be determined not only by the products it makes but also by the processes employed or materials used in making those products.

While some establishments produce only the primary products of the industry in which they are classified, it rarely happens that all the establishments in an industry specialize to this extent. Therefore, the general statistics (employment, payrolls, inventories, value added by manufacture, total value of shipments, capital expenditures, etc.) shown for a industry (tables 1 to 4), encompass not only the primary activities of the establishments in that industry but also their secondary activities. On the other hand, the product statistics in tables 5a and 6a measure the total output of specific products whether they are produced by establishments classified in the same industry as the product or not. For this reason, in relating the general statistics of an industry, especially the industry total value of shipments (tables 1 to 4), to the product statistics (table 6), the composition of the industry's output as shown in tables 5b and 5c should be considered. Table 5c is a matrix table in which the columns break down industry shipments into primary and secondary products and "miscellaneous receipts." The rows of the table show the amount that each industry produced of a given product class.

The extent to which industry and product statistics may be matched with each other is measured by the two ratios shown in table 5b which are computed from table 5c. The first of the ratios, called the primary product specialization ratio, is the proportion of product shipments (both primary and secondary) of the industry made up of primary products. The second, defined as the coverage ratio, is the proportion of primary products shipped by the establishments classified in the industry to total shipments of such products by all manufacturing establishments.

Degrees of integration—In many industries, establishments use a wide variety of processes and materials to make the products of the industry. An industry classification based on end products may include establishments which are vertically integrated and those which put only the finishing touches on an already highly-fabricated purchased item. For example, in the refrigeration industry, there are some establishments that are almost completely integrated, producing the compressor and condensing unit, electric motor, and even the castings for those intermediate products, as well as the stamping of the case and the final assembly. In other plants, the condensing unit, the motor, and the case may be purchased and merely assembled into the finished product.

In some instances, nonintegrated plants have been placed in separate industry categories from the integrated plants. In many industries, the census provides separate statistics on departmental operations or on the production of intermediate commodities made and used in the producing plant. When an industry includes plants which ship a significant proportion of their output to other plants of the same company, separate figures are usually shown on the interplant transfers.

These differences in the integration of production processes, types of operations, and types of materials used, should be taken into account when relating the general items (employment, payrolls, value added, etc.) to the product and materials data. Where integrated operations are of consequence in an industry, that fact is pointed out in the explanatory text.

Industry code resistance—The production of many establishments is so evenly divided among two or more industry-determining product groups that the industry codes could change from year to year (industry codes can be based on less than half of the total value if there are three or more groups). In the ASM, plants had always been prevented from shifting back and forth among industries due to minor shifts in product mix in the years between censuses by the application of a "resistance formula" in assigning industry classifications. In census years, such resistence was not applied.

A resistance formula of the ASM type was first used in the 1963 Census of Manufactures. In the 1977 census, the formula was applied only to establishments included in the 1976 ASM sample panel with certainty (that is, included with a probability of "1"). In general, these certainty cases were establishments of companies with at least one manufacturing plant with 250 employees or more.

The formula recognizes the conflicting need to maintain continuity in the establishment composition of an industry to measure change and the need to allow establishments to be reclassified to measure the current composition of the industry.

In the 1977 census, the industry classification of a certainty establishment was allowed to change from that assigned in 1976 under one of the following conditions:

a. The value of the 1977 primary products constituted 60 percent or more of its total value of product shipments.

b. The value of the 1977 primary products, while less than 60 percent of the total, was at least twice the value of products which had determined the 1976 industry code.

c. The value of the 1977 primary products, while not meeting either of the two above conditions, had been the largest group of products for at least two years, i.e., exceeded the value of the 1975 primary industry's products in both 1977 and 1976 by at least 20 percent.

[10] Schedule B is the U.S. export classification while TSUSA is applied to imports.

Table F. **Value Added by Manufacture for Regions, Divisions, and States: 1977**

Region, division, and State	Value added by manufacture (million dollars)	United States, total (percent)	Region, division, and State	Value added by manufacture (million dollars)	United States, total (percent)
United States[1]	585,165.6	100.0	South Region--Con.		
Northeast Region	138,746.4	23.7	South Atlantic Division--Con.		
New England Division	35,586.9	6.1			
Maine	2,343.0	.4	West Virginia	3,880.2	.7
New Hampshire	2,174.7	.4	North Carolina	18,230.6	3.1
Vermont	1,050.1	.2	South Carolina	8,186.1	1.4
Massachusetts	16,348.6	2.8	Georgia	12,548.8	2.1
Rhode Island	2,736.6	.5	Florida	9,255.1	1.6
Connecticut	10,933.9	1.9			
			East South Central Division	36,234.3	6.1
Middle Atlantic Division	103,159.5	17.6	Kentucky	9,545.7	1.6
New York	44,289.8	7.6	Tennessee	12,663.4	2.2
New Jersey	22,852.8	3.9	Alabama	8,405.9	1.4
Pennsylvania	36,016.9	6.2	Mississippi	5,619.3	1.0
North Central Region	200,889.8	34.3	West South Central Division	52,112.5	8.9
East North Central Division	160,223.4	27.4	Arkansas	4,881.6	.8
Ohio	43,054.7	7.4	Louisiana	9,418.3	1.6
Indiana	22,717.6	3.9	Oklahoma	4,662.3	.8
Illinois	40,279.1	6.9	Texas	33,150.3	5.7
Michigan	37,566.0	6.4			
Wisconsin	16,606.0	2.9	West Region	84,910.6	14.5
			Mountain Division	13,620.4	2.3
West North Central Division	40,621.3	6.9	Montana	847.3	.1
Minnesota	9,605.2	1.6	Idaho	1,430.0	.2
Iowa	8,684.4	1.5	Wyoming	380.8	.1
Missouri	13,041.9	2.2	Colorado	4,471.8	.8
North Dakota	473.3	.1	New Mexico	733.5	.1
South Dakota	611.6	.1	Arizona	3,332.9	.6
Nebraska	2,867.1	.5	Utah	1,974.0	.3
Kansas	5,337.8	.9	Nevada	495.2	.1
South Region	160,581.7	27.4	Pacific Division	71,245.1	12.2
South Atlantic Division	72,304.3	12.4	Washington	8,955.0	1.5
Delaware	1,595.7	.3	Oregon	6,138.0	1.0
Maryland	7,115.6	1.2	California	54,862.4	9.4
District of Columbia	610.2	.1	Alaska	504.2	.1
Virginia	10,882.0	1.9	Hawaii	785.5	.1

[1]Total value added differs slightly from summation of the individual States since a few establishments that could not be accurately coded to a State are included in the United States total.

5. GEOGRAPHIC CLASSIFICATION

Census divisions and regions—The 1977 Census of Manufactures measures industrial activity at the State, county, city, and standard metropolitan statistical area levels. In prior censuses, similar information was also provided for the traditional nine geographic divisions (e.g., New England, Middle Atlantic, etc.) and the four geographic regions (northeast, south, north central, and west).

The presentation of data for individual industries and industry groups at all these geographic levels has always created serious problems in protecting the confidentiality of individual company data. Consequently, it has frequently been necessary to set priorities as to what will be published (see item 21). In the past, the preference was given to publishing data for the broad geographic regions over States leading to greater suppression of industry detail at the State level. In recent years, there has been increasing interest in State information in preference to the broader regions. As a result, the 1977 Census of Manufactures gave first precedence to publishing State figures. A decision was also made to forego publication of any divisional and regional totals. This was desirable to avoid suppressing industry detail in one State that could have been published, in order to protect data for another State in the same division, that had to be suppressed to preserve the confidentiality of a respondent's figures.

Thus, some summary tables for the nine geographic divisions and four regions that were published in prior censuses do not appear in Volume III, Area Statistics, of the 1977 Census of Manufactures. (See table F for 1977 value added data for regions, divisions, and States.)

Standard metropolitan statistical areas—In addition to the data for the legally constituted geographic units (States, counties, and cities), all manufacturing totals are shown for approximately 280 SMSA's.[11] In the 1977 tables, detail for 2-, 3-, and 4-digit industries is shown for an SMSA if data for individual companies would not be disclosed, and the industry had at least 250 manufacturing employees. These are the same criteria as those used in the 1972 census. In censuses prior to 1967, detail had not been shown for SMSA's with under 40,000 total manufacturing employment, and only industry group figures were shown for SMSA's with 40,000 to 190,000 employees.

SMSA's are integrated economic and social units with a large volume of daily travel and communication between the central city (having 50,000 or more population) and outlying parts of

[11] See appendix F for a description of each SMSA.

Table G. **The 50 Largest SMSA's Ranked by Value Added by Manufacture: 1977 and 1972**

Standard metropolitan statistical area	Number of employees (thousands)	Value added by manufacture (mil. dol.)	1977 rank	1972 rank	Standard metropolitan statistical area	Number of employees (thousands)	Value added by manufacture (mil. dol.)	1977 rank	1972 rank
Chicago, Ill.	884.3	27,542.1	1	1	Indianapolis, Ind.	124.0	3,922.2	27	26
Los Angeles-Long Beach, Calif.	825.5	24,701.8	2	2	Gary-Hammond-East Chicago, Ind.	98.2	3,517.6	28	30
New York, N.Y.-N.J.	796.6	19,878.3	3	3	Dayton, Ohio	106.5	3,261.0	29	29
Detroit, Mich.	564.6	18,149.9	4	4	Toledo, Ohio-Mich.	92.7	3,203.0	30	35
Philadelphia, Pa.-N.J.	451.8	13,429.6	5	5	Denver-Boulder, Colo.	106.4	3,068.5	31	36
Houston, Tex.	210.1	9,844.4	6	11	Providence-Warwick-Pawtucket, R.I.-Mass.	140.0	3,040.4	32	33
St. Louis, Mo-Ill.	248.7	8,342.0	7	8	Portland, Ore.-Wash.	99.4	2,951.6	33	40
Cleveland, Ohio	265.4	8,105.9	8	7	Columbus, Ohio	96.2	2,969.4	34	32
Newark, N.J.	255.5	7,870.8	9	6	New Brunswick-Perth Amboy-Sayreville, N.J.	80.5	2,945.2	35	31
Dallas-Fort Worth, Tex.	269.9	7,869.1	10	13	Allentown-Bethlehem-Easton, Pa.-N.J.	106.8	2,731.8	36	37
Boston, Mass.	267.7	7,469.1	11	9	Beaumont-Port Arthur-Orange, Tex.	38.3	2,626.3	37	(1)
San Francisco-Oakland, Calif.	193.3	6,817.2	12	14	Youngstown-Warren, Ohio	79.5	2,620.2	38	38
Rochester, N.Y.	144.4	6,732.4	13	10	Grand Rapids, Mich.	82.6	2,582.2	39	41
Pittsburgh, Pa.	239.7	6,478.4	14	12	Phoenix, Ariz.	84.6	2,558.6	40	44
Milwaukee, Wis.	204.1	6,408.8	15	16	Hartford, Conn.	87.0	2,317.0	41	43
Minneapolis-St. Paul Minn.-Wis.	216.9	6,408.0	16	15	San Diego, Calif.	79.1	2,173.9	42	49
San Jose, Calif.	181.4	6,205.7	17	22	Memphis, Tenn.-Ark.-Miss.	64.1	2,159.7	43	45
Cincinnati, Ohio-Ky.-Ind.	160.2	5,645.9	18	17	Greenville-Spartanburg, S.C.	104.8	2,129.7	44	42
Anaheim-Santa Ana-Garden Grove, Calif.	177.5	5,280.9	19	23	Baton Rouge, La.	24.1	2,075.5	45	(1)
Baltimore, Md.	165.9	5,169.5	20	18	Syracuse, N.Y.	57.8	2,017.7	46	48
Buffalo, N.Y.	140.3	4,735.5	21	19	Akron, Ohio	83.5	2,014.2	47	39
Louisville Ky.-Ind.	106.9	4,440.7	22	20	Richmond, Va.[2]	53.4	1,992.6	48	(1)
Nassau-Suffolk, N.Y.	155.9	4,370.3	23	25	Jersey City, N.J.	72.2	1,983.4	49	34
Atlanta, Ga.	128.7	4,222.8	24	27	Nashville-Davidson, Tenn.	80.5	1,935.3	50	(1)
Seattle-Everett, Wash.	131.9	4,161.0	25	28					
Kansas City, Mo.-Kans.	117.8	4,119.9	26	21					

Note: The Flint, Mich., SMSA, falls within the top 50 SMSA's but is excluded from this table to avoid disclosing figures for individual companies.

[1]Not in the top 50 SMSA's. [2]New Kent County added in 1977.

the area.[1,2] Each area (except in New England) consists of one whole county or more. An area may contain not only highly industrialized counties but also adjoining counties which, though primarily residential in character, contribute significantly to the industrial counties' labor force and are socially and economically integrated with the central city. These areas were defined by the Federal Committee on Standard Metropolitan Statistical Areas for general-purpose use in presenting economic and social data. In the New England States, similar integration criteria have been applied in defining SMSA's, but on a city and town basis, because towns are regarded as the significant unit in this region of the country.

The requirement that each SMSA consist of county units (except in New England) sometimes results in the inclusion in an area of a considerable amount of territory which would not ordinarily be considered "metropolitan," much less "industrial." It is recognized that metropolitan areas could be more accurately defined in terms of smaller area segments such as minor civil divisions, but the usefulness of areas so defined would be limited by the fact that many types of economic and social data are available only on a county basis. Periodically, the SMSA's are redefined. While some changes can be made at any time, if there are serious reasons, the major restructuring of SMSA's occur after each census of population is completed. Appendix F describes the current SMSA's and the changes since 1972.

Each SMSA is designated by the name of the principal city of the area. In addition to the name of the principal city, the areas title may include one or two additional city names.

Value added by manufacture in all SMSA's accounted for 79 percent of the U.S. total in 1977. The relative importance of the 50 largest SMSA's in 1977 and their rankings in the 1972 and 1967 censuses are shown in table G.

[1,2] Each SMSA must include either (1) a city with 50,000 or more inhabitants, or (2) a city having a population of at least 25,000 which (a) with the addition of the population of contiguous places has a population density of at least 1,000 persons per square mile; (b) constitutes, for general economic and social purposes, a single community with a combined population of at least 50,000; and (c) includes a total population of at least 75,000 in the county or counties in which the city and contiguous places are located.

Standard consolidated statistical areas (SCSA's)—In many highly urbanized areas of the country, SMSA's tend to border on one another. For some purpose, it was desirable to treat them as one geographic area and the SCSA's were developed. Each SCSA includes two or more contiguous SMSA's which meet specific criteria of size, urban character, integration, and contiguity of

urbanized areas. As with the SMSA's, the SCSA's are defined by the Federal Committee on SMSA's of the Office of Management and Budget. Their number has increased from two in the 1972 census to 13 for 1977. All manufacturing totals appear in table 4 of each State chapter. Data for 2-, 3-, and 4-digit industries with 250 manufacturing employees or more are published in table 6.

Industrial counties—In addition to industry statistics for SMSA's, table 7 of each State report presents data by county for each industry group (2- and 3-digit) and industry (4-digit) that had at least 450 manufacturing employees if it would not disclose figures reported by individual companies.

Cities with 450 manufacturing employees or more—Summary totals and industry detail at the 2-, 3-, and 4-digit levels are shown for individual cities with 450 manufacturing employees or more, provided the data do not disclose information for individual companies.

II. Methods

6. PLANNING AND PREPARATION

General—The Bureau of the Census has an obligation to meet public needs for timely and reliable information while holding costs and the burden on respondents to a minimum. During the planning stages of each economic census, the advice of trade and professional associations, Federal and State government agencies, individual companies, labor unions, and research and educational organizations is sought in an effort to reach both the users of data and the respondents who supply the basic figures. Simultaneously, the problems encountered in the previous censuses are studied, and improved methods of collection, processing, and tabulation are explored.

Mailing lists—Beginning with the 1954 economic censuses, the basic mailing lists have been obtained from IRS and SSA records. These records were also sampled to develop statistics for retail and service establishments with no employees. After the 1963 censuses, feasibility studies indicated that greater use could be made of the data in the IRS-SSA records. In the 1967 censuses, over 2,000,000 firms were exempted from the filing requirement, including 120,000 small manufacturers. Instead, census-type statistics for this group were developed from IRS-SSA records. In close cooperation with IRS and SSA, specific procedures for the use of individual tax returns that assured confidential treatment of them were developed and set forth in Executive Order No. 10911, dated January 17, 1961, and Treasury Decision No. 6547 of the same date. The records used were business income tax returns (IRS forms 1040C, 1065, 1120, and 1120S) and payroll tax returns (IRS form 941). The name and address, payrolls, and gross business receipts were obtained from these reports, in addition to the SIC industrial activity code assigned by SSA. Other census statistics for these small firms were imputed using industry average ratios of the data item to payrolls and sales.[13]

This procedure was repeated in the 1972 and 1977 economic censuses. In 1972, there was a concerted effort by the Bureau of the Census to improve the industry coding of the administrative record by mailing a nature-of-business inquiry to establishments whose industry codes could have been affected by the 1972 revision to the SIC Manual. A similar effort was made in 1977 to clarify the classification of firms which SSA had not been able to code precisely.

Content of questionnaires—As in previous censuses, the content of the 1977 questionnaires was developed in consultation with a large number of organizations and individuals, representing both the manufacturers who supply the data and those who use the statistics. Those consulted included Government agencies, individual firms, labor unions, the American Statistical Association, the American Economic Association, the American Marketing Association, the National Association of Manufacturers, and all National Manufacturers' Associations covering specific industries.

Many individual manufacturers and their trade associations were consulted about the content of the sections of the report forms dealing with the output of specific products. Drafts of the proposed 1977 product sections were circulated among 800 trade associations and about 4,000 manufacturing companies, both large and small. These draft report forms included new product detail reflecting suggestions received by the Bureau of the Census after the 1972 canvass. Small items (those valued at $7.5 million or less) were not retained in the list unless they were needed to assure correct classification of other products or were of strategic importance. A restriction was placed on proposals for additional detail; it was stipulated that the 1977 value of any new product category should exceed $20 million. The manufacturers were requested to comment specifically on the availability of the data requested in their ordinary records, and the appropriateness of the product descriptions and units of measure.

The thousands of comments and suggestions received in this clearance procedure and the decisions reached were forwarded to the Office of Federal Statistical Policy and Standards, along with the product sections developed by the Bureau of the Census as a result.

A final review was made by the Office of Federal Statistical Policy and Standards with the assistance of the Advisory Council on Federal Reports. The latter organization is a group of business executives such as controllers, economists, and market research directors, representing a cross section of all industries.

[13] As discussed elsewhere in this introduction, the amount of imputation introduced by this procedure was only about 1 percent of the overall totals.

7. REPORTING FORMS

A representative selection of the reporting forms used in the census is reproduced in appendix D. The users of each of them are discussed below.

General forms—These forms were used in the economic censuses, generally, either as companywide reports or as reports for establishments whose classification was not known precisely in advance of mailing.

NC-X1, Report of Company Organization—This companywide report was used prior to mailing the 1977 census questionnaires to develop the directory of establishments operated by multiunit companies. A more detailed account of their use is given in Section 8, The Mailing Lists.

NC-X2, Listing of Additional Establishments—This form was included with the census of manufactures forms mailed to multiestablishment companies in order to obtain a list of establishments that were acquired after the NC-X1A was filed. These additional plants were classified, added to the NC-X1A directory list, and mailed the appropriate 1977 economic censuses report forms. Plants under construction but not in operation were requested to report the value of construction put in place during 1977 and the total gross book value of assets in place at the end of the year.

NC-X3, General Schedule—This questionnaire was designed to obtain information from small companies for which the industry code available in the SSA records was not precise enough to indicate which one of the standard census questionnaires should be mailed. The information provided on form NC-X3 was used to classify these companies by industry and tabulate their data in the appropriate census.[14]

NC-X6, Administrative Offices or Auxiliary Establishments—Many multiunit companies maintain separate establishments to provide centralized administrative management, or other supporting services for other establishments of the same company, but not for the general public or other companies. They were asked to complete form NC-X6 for those establishments. The form contained questions on the approximate number of employees engaged in such functions as centralized administration, research and development, warehousing, and other auxiliary activities, and on the cost of research and development work performed by these nonmanufacturing establishments. The respondent was also asked to describe the industry activity of the operating establishments serviced by the centralized office or auxiliary unit reporting on form NC-X6.

NC-K1, Company Summary Report—Each multiunit company with 250 employees or more received a form NC-K1, Company Summary Report, in addition to a specific questionnaire for each establishment. The NC-K1 requested consolidated company totals for receipts, new capital expenditures, inventories, and fixed assets, which are published as part of the Bureau of the Census' Enterprise Statistics Program described in section I.

Census of manufactures forms—The questionnaire reproduced in the appendix, form MC-36B, is typical of the approximately 200 forms used for operating manufacturing establishments. Each of these forms was designed to be used for a specific group of industries. Since it is desirable to retain comparability in the annual survey of manufactures for establishments reporting in the sample, form MA-100 was substituted as the front sheet of the census form (e.g., MC-36B) to collect the information common to all industries. Whether or not form MA-100 was used, the inquiries on the 200 forms were identical except for the detailed questions on products shipped, materials used, and miscellaneous topics such as operations performed, equipment used, and delivery of products.

Short forms—Some industries include a large number of small- to medium-sized firms that account for a significant portion of the industry's output. Usually, these firms are not so small that the limited data in the administrative record files would meet the needs of the census. To obtain sufficient data, yet hold the reporting burden down for these smaller firms, special abbreviated short forms were designed. They obtain the key input and output statistics without the detail requested on the standard forms. A sample form is included in appendix D.

Annual survey of manufactures forms—Form MA-100 is the establishment report used in the ASM since 1949 (with modifications). The establishment's 1976 data were imprinted on the report form before mailing, thus aiding the respondent in following the instructions for the census. Item 11-A, "value of products shipped and other receipts," on form MA-100, corresponds to item 18 on the census forms such as MC-36B.

In years between censuses, the ASM collects data for broad classes of products; whereas, every 5 years, in the census, item 18 calls for information or individual product shipments.

Other related forms—Form CB-50F, Census of Distributive Trades Electrical Goods, which is reproduced in appendix D, is typical of the several forms used for wholesale establishments in the census of business. Some manufacturers operate their own wholesale establishments which the Bureau of the Census classifies as "manufacturers' sales branches and sales offices." The wholesale forms differed only in the kinds of products sold as listed in item 10. Item 18 provides the information needed to classify the establishment as a sales branch or sales office.

MC-171, Department of Defense Establishments, and MC-D4, Penal Institutions—These forms were used to collect information on government-owned and government-operated manufacturing establishments. They were used for two types of establishments:

[14] The use of form NC-X3 is also discussed in item B, Mailing Lists.

a. Manufacturing facilities owned and operated by the Department of Defense.
b. Prison industries (Federal, District of Columbia, and State).

The data were prepared with the cooperation of the Department of Defense, the Department of Justice, and the District of Columbia and State prison systems. For Department of Defense installations, information was provided on employment, worker-hours, payrolls, cost, and value of work done, by industry group and by State. For prison industries, however, only product data were requested. The data are presented in a special report included in volume I and are not included in the totals for operating manufacturing establishments.

8. MAILING LISTS

General—As discussed in item 6, the list of respondents for 1977 was obtained from IRS-SSA records. Since the IRS-SSA lists consist essentially of the names and addresses of companies rather than establishments,[15] it was necessary to follow separate procedures for multiunit companies (those operating at more than one location).

The precanvass—Multiunit companies were required to file at least one establishment report[16] covering each location. In order to mail the appropriate questionnaires, it was necessary to determine the type of activity at each location operated by multiestablishment companies. The Bureau of the Census has conducted an annual update of its directory of establishments operated by large companies in which Report of Company Organization (form NC-X1)[17] is mailed each year to multiunit companies.

All of these forms consist of a report on company affiliation and a list of the domestic establishments operated by the company. The company's establishments as identified in census records are prelisted and the respondents are asked to correct this list. They are also asked to describe new establishments not prelisted and indicate their approximate size.

Large multiunit companies are segregated for special handling because of possible overlaps and duplication. Many of these companies are active in retail and wholesale trade as well as in manufacturing. The reporting instructions are reviewed in discussions with officials of the accounting departments of many of these firms to make certain that the procedure is understood and the establishments are properly described on form NC-X1.

Single-unit companies—The mailing lists for single-unit companies (those operating at only one location) were developed from an initial control file assembled from IRS and SSA records. Out-of-scope companies (those whose activities were not to be surveyed in the economic censuses) and those identified as multiunits in the multiunit directory were removed. A special survey of out-of-scope companies with more than 50 employees was conducted, in some industries, to make certain they should not be included in the census. Some names were added to the mailing list as a result. Single units with over 150 employees were mailed form NC-X1 to determine if they were multiunits.

The final step was to identify the small companies which were not to be mailed because census-type statistics were to be developed from administrative records. The remaining records constituted the mailing lists for single-unit companies.

General schedule—While these lists generally contained adequate industry information to determine the proper form for mailing, a number of the records did not have precise industry information associated with them. Form NC-X3, General Schedule, which is reproduced in appendix D was mailed to these companies. Since it was assumed that these companies were quite small, only a few key figures were requested. The completed reports were coded and included in the tabulations. If form NC-X3 indicated that the company was actually large, it was later requested to file one or more of the appropriate standard questionnaires.

9. COVERAGE AND ACCURACY

Since the list of companies obtained from IRS and SSA records was considered to be complete, no field coverage check was conducted. The precanvass and other special procedures for multiunit companies described in item 8, Mailing Lists, and item 11, Data Collection, were designed to secure complete lists of establishments; thereby simplifying the IRS-SSA company list. Control totals, in terms of employment and payrolls of multiunit companies, were also used to verify the completeness of establishment coverage.

It was possible to compare statistics tabulated from the census of manufactures with the Bureau of the Census' Current Industrial Reports Series, or with data originating with other agencies and, thus provide a further confirmation of completeness and accuracy. These figures range from employment and wage totals compiled by the Bureau of Labor Statistics to detailed commodity output figures published by the IRS, the Fish and Wildlife Service, and the Department of Agriculture. In this volume, differences between the census of manufactures and other statistics are explained wherever possible. Census of manufactures comparability with broad measures such as national income, new capital expenditures, and production indexes are discussed elsewhere in this introduction. The Bureau of the Census' other procedures designed to improve the accuracy of the census data are discussed above in the items on data collection and processing.

[15] The SSA records for multiunit companies identify "reporting units," which in many instances correspond to census establishments. The differences are such, however, that it was found necessary to obtain up-to-date lists of establishments as described in this section. Also, the Bureau of the Census concept of a company differs from the IRS-SSA definition, since the census company includes all establishments under common ownership or control. In the IRS-SSA records, subsidiary corporations are often treated as independent companies.

[16] If two or more distinct lines of activity were carried on at one location, separate reports were obtained under some circumstances. (For a complete discussion, see "Establishment Basis of Reporting" in section 4.)

[17] This form is reproduced in appendix D.

A discussion of the valuation of intracompany shipments by multiunit companies is included in item 15.

10. GEOGRAPHIC CODING

Accurate and complete information on the physical location of each establishment is required in order to tabulate the census data by standard metropolitan statistical areas, counties, and cities. As in previous censuses, the post office address and ZIP code of the establishment were not always accepted as defining the physical location, but respondents were required to describe the actual location in terms of street address; city, town, or village; county; and State. For establishments located in rural territory, the name or number of the nearest highway was requested and the distance from the nearest town or other urban place.

In censuses prior to 1963, clerks assigned geographic code numbers to each establishment based on the description furnished by the respondent. This process was slow and required careful verification. Beginning with 1963, a computerized system was developed which assigned an area code number and a prefix symbol to the mailing address before the questionnaires were mailed. The prefix symbol indicated whether or not the mailing address was clearly acceptable as describing the physical location. If there was any question about its acceptability, the respondent's description was later carefully reviewed after the questionnaire was received. The assignment of tentative code numbers by the computer was based on extensive reference files containing nearly a million business names and addresses.

11. DATA COLLECTION

Although the greater use of administrative records in 1977 substantially reduced the number of companies canvassed directly, there remained nearly 2 million which were required to file, including about 205,000 manufacturers. Small manufacturers, for whom the administrative records sufficed, numbered about 145,000. The assembly of several hundred different questionnaires into mailing packages correctly labeled and coded, combined with the correct instruction booklets, was an extensive operation.

Most of the 1977 questionnaires were mailed by mid-January 1978 with a due date of February 15. The collection phase was completed by late July 1978.

Companies which did not return their questionnaires by the due date had to be reminded that their returns were overdue. In all, there were five routine followups. Telephone calls were made to the large companies to help with reporting problems and to request that the forms be completed and returned.

Estimates based on data from administrative records were included in the census tabulations for the relatively small number which had not responded by the closeout date in July 1978. Thus, reported or estimated data for all companies and establishments in the original mailing list (except those determined to be inactive during 1977) were included in the final statistical results. A special effort was made to obtain actual returns from all large firms, so that the dollar volume of business represented by proxy returns was relatively very small.

12. DATA PROCESSING

General—The editing,[18] coding, and tabulation of data for the 5 million establishments represented in the 1977 economic censuses was a complicated task. Automatic data processing and other advanced techniques were used in all phases.

The questionnaires were mailed from and returned to the Bureau of the Census office at Jeffersonville, Ind., where most noncomputer (that is, clerical) processing operations were performed. The returns were screened to identify major problems that could be resolved by routine correspondence with respondents. Acceptable data were placed on a key-to-disc system, and the encoded data sent to Washington, D.C. on a high-speed transmission system. The Washington, D.C. staff handled computer operations and all operations in connection with the use of IRS and SSA records.

Preliminary screening—After they were checked in and assigned geographic codes, the questionnaires were reviewed clerically to see that they conformed to certain minimum requirements before further processing. For multiunit companies, the sum of employment and payrolls reported on its establishment questionnaires was compared with the control totals received on IRS form 941. Questionnaires received on single-unit forms were reviewed to ascertain whether they had become multiunits through merger or acquisition. Questions arising in the screening operation were resolved by writing or telephoning the respondents. Complex problems were referred to the Washington, D.C. professional staff.

Computer editing—As in the 1972 Census of Manufactures, most of the review for consistency among data items and completeness was done on the computer. Average values and tolerance limits for key operating ratios (for example, cost of materials per dollar of shipments, payroll per employee, production-worker wages per hour, etc.) played a fundamental role in the editing process. More than half of all 4-digit SIC industries had one or more data cells changed by more than 5 percent as a result of the application of these programs.

A detailed description of the step-by-step processing procedures appears in the Bureau of the Census publication, History of the 1977 Economic Census. This volume describes the procedures followed in both the centralized overall processing and in the individual censuses such as manufactures.

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[18] In data processing, the term "editing" means the review of information collected on questionnaires or from other sources, with the objective of locating and correcting erroneous entries.

III. Comments on Statistical Measures and Tables

(Explanations and definitions of the various measures of activity for which statistics are compiled in the census of manufactures are presented in appendix A. In the following text, the limitations and other characteristics of some of these measures are discussed, the content of the statistical tables is described, and comparisons with other statistical series are presented.)

13. EMPLOYMENT AND PAYROLLS IN ADMINISTRATIVE OFFICES AND AUXILIARIES

In the industry statistics chapters, the data on employment and payrolls are limited to operating manufacturing establishments. In the summary tables and the area reports, the employment and payrolls of administrative offices and auxiliaries are included as well. The report filed for administrative offices and auxiliaries requested a description of the activity of the establishments that they serviced. However, the administrative offices and auxiliaries were coded only to the 2-digit industry group of the establishments they served, whereas the operating establishments were coded to a 4-digit manufacturing industry. In most of the tables with industry detail, the administrative offices and auxiliaries are shown as a separate industry group, but statistics for them by 2-digit industry appear in each volume in the general summary tables. As indicated in table H, the relative importance of administrative offices and auxiliaries has increased substantially in recent years because of a tendency to centralize functions formerly performed in manufacturing plants. Such functions include accounting (particularly where computerized), warehousing repair services, and miscellaneous others.

Table H. **Employment in Administrative Offices and Auxiliaries and in Operating Manufacturing Plants: 1977 and Earlier**

Census year	Employees in operating manufacturing establishments		Employees in administrative offices and auxiliaries		
	Thousands of employees	Percent change from previous census year	Thousands of employees	Percent change from previous census year	Percent of total employment[1]
1977	18,516	+2.7	1,074	+8.0	5.5
1972	18,032	-2.5	994	+19.8	5.2
1967	18,492	+14.0	830	+14.3	4.3
1963	16,235	+5.3	726	+20.6	4.3
1958	15,423	-1.4	602	[1]+32.9	3.8
1954	15,645	(NA)	453	(NA)	2.8

(NA) Not available.

[1]The apparent increase from 1954 to 1958 is believed to be somewhat overstated, because coverage of administrative offices and auxiliaries was more complete in the 1958 census.

Source: Census of Manufactures.

14. MATERIALS CONSUMED

Every establishment was requested to report the total cost of materials. In addition, quantity and cost information was collected for approximately a thousand specific materials. About 350 of these were "complete coverage" materials; i.e., every industry that consumed appreciable quantities of the material was canvassed so that the data would aggregate to at least 90 percent of manufacturing consumption. For the remaining materials, information on consumption was obtained only in those industries in which the materials were important inputs. Detailed consumption information was collected in item 17, the standard material inquiry; in item 18, the product inquiry (for items that were produced and consumed in the same plant); and in a few instances in a special inquiry. The resulting statistics are presented mainly in tables 6a and 7a of the industry statistics chapters.

Because American industry uses an enormous variety of materials, the choice of materials for which "complete coverage" consumption data (90 percent or higher) were obtained had to be strictly limited. The selection of a particular material for such coverage was based on the following criteria:

a. The importance as measured by the total value of U.S. consumption of the material.
b. The percentage of total consumption accounted for by manufacturing establishments.
c. The availability of consumption information from manufacturers' records.
d. Other factors such as the strategic importance of the material or the availability of historical data on the use of the material.

The "limited-coverage" materials were chosen, not only because they constituted important inputs for particular industries, but frequently because they provided information necessary to classify plants by SIC industry. In using the detailed data on materials consumed which appear in table 7 in the industry statistics chapters, of the following limitations should be noted:

a. Materials were reported for the establishment as a whole and no attempt was made to ascertain how much of the material was used in each of various products. Thus, the industry totals appearing in table 7 include consumption in secondary products as well as primary products

of the industry. The extent of secondary production in each industry is measured by its specialization coverage ratio shown in table 5b of the industry chapters.

b. Special attention should be paid to the codes ending in "000" and captioned "materials, parts, containers, and supplies, n.s.k." The amounts appearing on these lines are totals imputed for (1) establishments whose statistics were developed from administrative records, and (2) totals for establishments which returned report forms but failed to report their consumption in specific terms. Thus, for most industries, the data for a specific material are understated. A judgment on the statistical significance of the understatement may be made from the ratio of the value shown for the "n.s.k." (code 000) to the total of materials, components, parts, containers, and supplies for the industry.
c. Establishments consuming less than a specified amount of material were not requested to report consumption of the material separately. For the majority of individual materials, the minimum amount was $10,000. The use of this cutoff is not believed to have had a significant effect on the totals, although in 1972 a lower cutoff of $5,000 was used.
d. A total of "n.e.c." material code 970099 was collected on most forms and is published for each industry. This is the total cost of materials for an industry for which no material items were prelisted on the form. A sample survey, MA-131, 1977 Supplemental Survey of Materials Consumed, was conducted to provide material consumption estimates for the cost of materials reported in material code 970099 for selected industries. Results of this survey are shown in the subject report Selected Materials Consumed.

15. VALUE OF SHIPMENTS

Value of shipments of multiunit companies—Except for a few industries, the respondents were instructed to report net selling values, f.o.b. plant, after discounts and allowances and excluding freight charges and excise taxes. Multiunit companies were instructed to report for each establishment as if it were a separate economic unit and, in particular, to report interplant transfers at their full economic value. Full economic value is defined as not only the cost of production but also a reasonable proportion of company overhead and profits. Generally, there is no advertising or other selling cost assigned by companies to interplant transfers, so it would be expected that the value per unit of such transfers would be less than that for commercial sales. To assure consistency in the valuation as the interplant transfer moved though the company, the plant receiving the transferred goods was instructed to include them in its cost of materials at the same value as at the shipping point, plus the cost of freight and other handling charges.

If the goods were transferred to sales branches, or sold through separate sales offices, the "f.o.b. plant" instruction implies that the value is somewhat lower than the final invoice value, because the cost of selling (mainly the cost of operating the sales branch or office) is excluded.

However, there is reason to believe that these instructions were not followed uniformly by all companies. In a record-keeping practice study of 54 multiunit companies conducted a few years ago, it was found that about half of them had reported interplant transfers of semifinished products at commercial or market prices, which tend to be somewhat higher than the "cost plus overhead and profit" requested in the census instructions. Where finished products were transferred to separate selling organizations, half of the companies interviewed valued the products leaving the manufacturing plant at their final or invoice price, or somewhat higher than the requested "f.o.b. plant" transfer value. It appears from this study and other observations that the value of shipments of products reported by multiunit companies tends to be overstated. If it was known that a substantial amount of a product tended to be transferred to establishments of the same company, separate quantity and value figures were requested on the amount transferred and the amount sold outside the company. Data on these shipments, the unit value of which tends to be different from the unit value for shipments outside the company, are presented separately in table 6a in the industry statistics chapters.

Individual products—In the 1977 census program, information was collected on the output of approximately 13,000 individual product items.[19] A "product" as used in the census of manufactures is the finest level of detail for which output information was requested. It is not necessarily synonymous with the term "product" as used in the marketing sense. In some cases, it may be much more detailed and, in other cases, it is more aggregative. For example, there is a long list of pharmaceutical preparations but a single item for all canned meats. If detailed production figures were available from other government sources or reliable private surveys, it was not considered necessary to request extensive detail in the census.

Some 6,000 of the product items were listed separately on the 1977 census report forms. Data for the remaining 7,000 products were obtained monthly, quarterly, or annually in commodity surveys of the current industrial reports program of the Bureau of the Census. Totals for the year 1977 for these items compiled in the commodity surveys are shown in table 6a, "products shipped," in the industry statistics chapters. On the 1977 census forms, only an overall control total or "tieline" was obtained. In table 6a, both the tieline total and the total of the detail obtained in the current industrial reports are shown to indicate how closely the two surveys were reconciled.

Typically, both quantity and value of shipments were collected. However, physical quantity measures are not meaningful for some product lines, and for these, only value of shipments was collected. If a product was used to a large degree in the fabrication of other products within the same establishment in which it was produced, total quantities produced and often the quantities consumed were collected. Information on production, as well as shipments, was also collected for products for which there are significant differences between the two

[19] See 1977 Census of Manufactures MC77-R-1, Numerical List of Manufactured Products.

because of wide fluctuations in finished goods inventories. Alternate measures of output of products, such as value of work done for products with long production cycles, were used as appropriate and feasible.

Classes of products—The individual products were aggregated into classes of products which were, in turn, grouped into the primary products of each industry. In the code structure, a 7-digit number is assigned to the individual product, a 5-digit code to the class of product, and a 4-digit code to the total primary products in an industry. (See section 4 for application of coding structure to the assignment of SIC codes for establishments).

The 13,000 product items in the 1977 census (including products from the current industrial reports program) were grouped into approximately 1,500 separate product classes. General similarity was the basis for the product class combinations within each 4-digit industry, i.e., kind or use of products, the manufacturing processes, type of markets, or materials used. The economic significance of the class was also taken into account; residual products of an industry were grouped when the dollar value of the products did not warrant separate classes.

Since preserving confidentiality of the data of respondent companies is a determinant of the amount of detail that can be published, the larger number of respondents included in the product-class shipments totals permit many more cross tabulations than do the 7-digit products. In the industry statistics chapters, product classes by State appear in table 6b and by industry of the establishment producing them in table 5c. The latter table clearly shows the primary and secondary product mix of an industry, as well as the interrelationship between the 4-digit industry value of shipments and the 4-digit product group value of shipments.

It is possible to classify individual establishments not only by 4-digit industry, but also by the largest class of products they produce within that industry. Table 5a provides finer industry-type general statistics for establishments classified according to the degree to which they specialize in producing a specific class of products.

The class-of-product concept was incorporated by the Bureau of the Census into the 1947 Census of Manufactures after it developed the technique in the compilation of World War II production statistics. Product classes were used to collect product information in the first ASM conducted in 1949. The product classes tend to be redefined more frequently than the SIC on which they are based in order to keep abreast of the growth and decline of products.

Effect of use of administrative records on product data—As noted elsewhere in this Introduction, 140,000 small manufacturers were not mailed report forms and most of their detail was imputed based on limited information in IRS and SSA administrative records. All of the value of products of these small establishments were coded only to the 4-digit products of the industry in which they were classified. These product shipment are uniquely identified in table 6a. Also uniquely identified are product shipments of reporting companies which were described too generally to code below the 4-digit level. Frequently, these were residuals in the company's records which the company felt it could not further break down. Table I, summarized by 2-digit group, reflects the importance of these "n.s.k." product shipments. Except in a few industries, they tend to be moderate in size—except in lumber, furniture, and printing (SIC 24, 25, and 27). The "n.s.k." of the respondents tends to be larger than that of the administrative records.

One factor tends to reduce the value of products, n.s.k., attributed to administrative record companies that affects table I, particularly. In some 4-digit industries, there is only one product category (an example is Industry 3273, Ready-Mixed Concrete). Administrative-record estimates for these products were treated as specific information and not tabulated as "n.s.k." headings.

In using the data for the specific 7-digit products shown in table 6a, the importance of the "n.s.k." has to be considered. The shipments of individual products tend to be understated somewhat in proportion to the size of the "n.s.k." Census-to-census comparison of 7-digit products should be made with caution if there has been a significant increase or decrease in the importance of the n.s.k.

16. DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

The aggregates of the cost of materials and value of shipments figures for industry groups, and for all manufacturing industries, include large amounts of duplication since the products of some industries are used as materials by others. With some important exceptions, such as SIC 3312, Blast Furnaces and Steel Mills, this duplication is not significant within individual 4-digit industries. However, it is significant at the 2- and 3-digit industry levels because these group totals often include industries which are successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the total value of shipments of SIC major group 20 and the addition of pulpmills to papermills in group 26. Economists have estimated that the value of manufactured products exclusive of such duplication—the value of finished manufactures—tends to approximate two-thirds of the total value of shipments reported in the census of manufactures.

Because the amount of duplication of the cost of materials in the value of products figures cannot be measured with any degree of precision, caution is urged with the use of the value of shipments totals at the 2- and 3-digit industry group levels.

Even where there is no significant amount of duplication within an industry group, value of shipments figures are not the best measures of the relative economic importance of individual manufacturing industries or geographic areas. There are wide variations in the ratio of materials, labor, and other processing costs to value of shipments; both among industries and within the same industry. The manufacturing process contributes only a small amount to the sales value of some products; but a large amount to the final value of others. Value added by manufacture is a better measure of the net contribution of an industry to the Nation's overall output.

Table I. **Value of Products, Not Specified by Kind: 1977 and 1972**

Product group code	Total value of product shipments (mil. dol.)		Products not specified by kind											
			Total (mil. dol.)		Large companies (mil. dol.)		Small companies (mil. dol.)		Percent attributed to--					
									Total		Large companies		Small companies	
	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972	1977	1972
Total	1,287,117.8	739,426.8	65,064.9	35,968.3	43,057.2	25,132.6	22,007.7	10,835.7	5.1	4.9	3.3	3.4	1.7	1.5
20	177,357.2	106,779.6	10,836.6	5,700.5	7,446.0	4,302.6	3,390.6	1,397.9	6.1	5.3	4.2	4.0	1.9	1.3
21	8,524.9	5,540.2	54.3	40.8	38.2	32.3	16.1	8.5	.6	.7	.4	.6	.2	.1
22	39,439.5	30,884.3	1,243.0	833.3	871.9	672.3	371.1	161.0	3.1	2.7	2.2	2.2	.9	.5
23	38,876.5	29,247.5	4,207.2	2,435.6	3,213.0	1,728.9	994.2	706.7	10.8	8.3	8.3	5.9	2.5	2.4
24	38,110.0	22,919.6	5,312.9	2,999.3	3,470.8	1,405.0	1,842.1	1,594.3	13.9	13.1	9.1	6.1	4.8	7.0
25	16,162.9	10,843.2	1,763.4	1,155.5	1,195.3	848.5	568.1	307.0	10.9	10.6	7.4	7.8	3.5	2.8
26	50,350.3	27,227.4	1,883.4	791.2	1,341.3	677.6	542.1	113.6	3.7	2.9	2.7	2.5	1.1	.4
27	46,692.4	29,347.5	6,091.9	3,433.1	4,167.9	1,891.6	1,924.0	1,541.5	13.0	11.7	8.9	6.4	4.1	5.3
28	109,724.4	53,038.9	3,453.6	1,567.3	2,122.4	1,140.7	1,331.2	426.6	3.1	3.0	1.9	2.2	1.2	.8
29	93,945.7	27,349.6	776.6	330.0	674.8	255.6	101.8	74.4	.8	1.2	.7	.9	.1	.3
30	38,237.2	19,963.5	3,297.5	1,360.3	2,508.3	1,048.3	789.2	312.0	8.6	6.8	6.5	5.2	2.1	1.6
31	7,122.3	5,472.0	594.7	335.0	488.2	242.4	106.5	92.6	8.3	6.1	6.8	4.4	1.5	1.7
32	33,780.9	21,139.7	1,756.8	1,042.1	1,164.2	678.7	592.6	363.4	5.2	4.9	3.4	3.2	1.7	1.7
33	99,044.8	71,058.4	1,469.7	1,225.0	822.7	1,069.8	647.0	155.2	1.5	1.7	.8	1.5	.7	.2
34	85,593.8	51,167.1	6,059.9	3,677.9	3,976.7	2,847.1	2,083.2	830.8	7.1	7.2	4.6	5.6	2.4	1.6
35	115,329.9	60,212.7	7,624.6	4,085.9	4,557.9	2,699.2	3,066.7	1,386.7	6.6	6.8	4.0	4.5	2.7	2.3
36	83,014.3	49,958.8	2,988.2	1,464.2	1,650.0	1,148.2	1,338.2	316.0	3.6	2.9	2.0	2.3	1.6	.6
37	161,607.6	91,522.0	1,999.9	1,413.5	1,084.9	1,126.8	915.0	286.7	1.2	1.5	.7	1.2	.6	.3
38	26,949.1	14,484.8	1,277.4	556.1	662.6	413.8	614.8	142.3	4.7	3.9	2.5	2.9	2.3	1.0
39	17,254.1	11,270.0	2,373.3	1,521.7	1,600.1	903.2	773.2	618.5	13.8	13.5	9.3	8.0	4.5	5.5

Note: These values are product shipments, irrespective of the industry in which the products were made and exclusive of miscellaneous receipts, and, therefore, differ from the industry group totals shown in the general summary tables. However, products primary to more than one product group are classified based on the industry in which they were made. Data for some product groups may differ slightly from the data collected in order to avoid disclosing operations of individual companies which have previously been withheld from the tables 6a of the 1977 and 1972 Censuses of Manufactures Industry Series.

17. VALUE ADDED BY MANUFACTURE

General—The first step in the calculation of value added is the conversion of the value of shipments (including resales and miscellaneous receipts) to value of production by adding the ending inventory of finished foods and work in process inventories and subtracting the beginning inventory. The cost of materials (including materials, supplies, fuel, electric energy, cost of resales, and cost of contract work) is then subtracted from this value of production to obtain value added.[20]

Value added avoids the duplication in the value of shipments figure which results from the inclusion of the shipments of establishments producing materials and components, along with the shipments of establishments producing finished products. It does not exclude the cost of services purchased from other business firms, as does the concept of value added, used in the national income accounts.[21] Nevertheless, it is considered to be the best value measure available in census data for comparing the relative economic importance of manufacturing among industries and geographic areas.

Gross national product, national income, and value added—The national income accounts provide two measures of national output or value added originating in manufacturing: (1) gross national product (GNP), or, more precisely, gross domestic product (GDP),[22] and (2) national income without capital consumption adjustment. These two measures are statistically different and neither is completely comparable to census value added.

GDP originating in manufacturing is the net value of the output of goods and services produced in the U.S. at market prices before deductions for depreciation charges and capital consumption allowances. It differs, in part, from the census value added since it includes indirect business taxes (e.g., sales, excise, and property). Excise and sales taxes are excluded from the f.o.b. census value of shipments and, thus, from census value added. Property taxes are part of the cost of doing business included in census value added, since only the cost of materials is deducted from f.o.b. shipments. A greater difference between GDP and census value added rests in the exclusion of purchased business services from GDP, but not from census value added. Both GDP and census value added include the basic factor costs of production—labor costs, property costs including depreciation, and profits. Depreciation in the two series is calculated differently, however. The census collects depreciation as carried on the books of the establishment.Thus, it tends to be the depreciation

[20] For a few industries (for example, ship building) where value of work done is substituted for value of shipments, no adjustment is made for change in inventories. In a few other industries where value of production is collected, the inventory adjustment is made only on the basis of change in work-in-process inventories.

[21] Collection of data on the cost of purchased business services at the plant level presents many problems. Advertising by multiunit companies, for example, is frequently charged at the company level and the cost either not allocated to plants or, if allocated, are only included as part of a broader company overhead category. National income data, on the other hand, are compiled, in part, from company rather than plant data, such as the IRS Statistics of Income in which advertising is presented as a separate cost item based on company reports.

[22] Gross national product is the market value of goods and services producted by labor and property supplied by *Residents* of the United States. Gross domestic product is the goods and services attributable to labor and property *located within* the United States.

charged against the original purchase price of the plant or equipment on a tax return basis. In calculating GDP, these tax return allowances are adjusted to account for the economic service lives, straight-line depreciation, and replacement cost.

In compiling the national accounts, it is necessary to rely on two different sources of data: (1) establishment-based data similar to the census for labor income, and (2) company-based data for profit and other company level income and cost charges. In estimating the GDP for manufacturing, the property-type incomes, interest, depreciation, and profit have been reestimated to an establishment basis by the Bureau of Economic Analysis (BEA). Thus, conceptually, both the GDP and value added tend to be on a comparable establishment-industry basis.

In the national accounts, 2-digit detailed statistics within manufacturing are compiled only on a national income basis, without the capital consumption adjustment. National income differs from GDP by the exclusion of indirect business taxes and capital consumption allowances, but before the capital consumption adjustment. Unlike GDP, it remains a mixture of establishment-based data and company-based data for profits and company-type costs. This results in the inclusion in national income of the net value added created by nonmanufacturing establishments of companies primarily engaged in manufacturing, but the exclusion of value added created by manufacturing plants of primarily nonmanufacturing companies. It is thought that this tends to raise the national income attributed to manufacturing. This effect can be seen in the petroleum and coal products industry group where nonmanufacturing activities are so significant that national income exceeds value added (see tables J and K).

Table K provides a year by year comparison of GDP and national income to value added. GDP tends to be 10 to 20 percent lower. In recent years, there are some erratic variations in these relationships. In part, this is thought to be the result of the different treatment of the change in inventory that is used in the two series. The census inventory figures are book value inventories and, thus, a mixture of last-in-first-out (LIFO) and first-in-first-out (FIFO) and other historic accounting methods. In the national income accounts, these inventories are converted to current prices comparable to the prices used to value the GDP, and, thus, the change in inventories is on a current-priced value consistent with sales. Significant differences occur in the change in book value and currently-priced inventories in years of rapidly changing prices. The magnitude of these differences can be partially judged by the size of the inventory valuation adjustment used by BEA (see table L).

Reconciliation of GDP and value added—In recent years, the census and the annual survey of manufactures have been obtaining data on some of the residual costs included in census value added. As a result, it is possible to reconcile in more detail the differences between GDP and value added in manufacturing. In table M, the census value added, at $585.2 billion, exceeded GDP at $462.4 billion. When indirect business taxes (other than property taxes) are deducted from GDP, it drops to $444.0 billion, or $141.2 billion less than census value added. The labor components of the two series are reasonably close, although not identical. Census depreciation, on a book value basis, however,

Table J. **Comparison of National Income Originating and Value Added by Major Industry Group: 1977 and 1972**

(Billion dollars)

SIC code	Industry group description	National income originating[1]		Value added by manufacturing		Column A divided by column C	Column B divided by column D
		1977	1972	1977	1972		
		(A)	(B)	(C)	(D)	(E)	(F)
	Manufacturing	411.5	252.3	585.2	354.0	.70	.71
	Nondurable goods	162.9	98.3	246.9	149.5	.66	.66
20	Food and kindred products	33.1	20.5	56.1	35.6	.59	.58
21	Tobacco manufactures	2.8	1.7	4.3	2.6	.65	.65
22	Textile mill products	12.3	8.4	16.1	11.7	.76	.72
23	Apparel and other fabricated textile products	13.7	9.8	19.7	13.5	.70	.73
26	Paper and allied products	15.5	9.5	22.2	13.1	.70	.73
27	Printing, publishing, and allied industries	21.0	13.5	32.0	20.2	.66	.67
28	Chemicals and allied products	30.8	18.2	56.7	32.4	.54	.56
29	Petroleum refining and related industries	18.7	6.7	16.4	5.8	1.14	1.16
30	Rubber and miscellaneous plastics products	12.2	7.7	19.7	11.7	.62	.66
31	Leather and leather products	2.8	2.2	3.7	2.9	.76	.76
	Durable goods	248.6	154.0	338.3	204.6	.73	.75
24	Lumber and wood products, except furniture	13.2	8.3	16.2	10.3	.81	.81
25	Furniture and fixtures	6.1	4.4	8.9	6.1	.69	.72
32	Stone, clay, and glass products	13.0	8.7	19.1	12.6	.68	.69
33	Primary metal industries	28.6	17.9	37.6	23.3	.76	.77
34	Fabricated metal products	31.7	19.4	45.5	26.9	.70	.72
35	Machinery, except electrical	47.9	27.7	67.2	37.6	.71	.74
36	Electrical machinery	36.4	22.6	50.4	30.6	.72	.74
19[2]	Motor vehicles and equipment	33.7	20.1	64.3	39.8	.82	.83
37	Other transportation equipment	18.9	13.1				
38	Instruments	11.9	7.2	18.7	10.6	.63	.68
39	Miscellaneous manufacturing industries	7.1	4.6	10.3	6.8	.69	.68

[1]Source: Survey of Current Business, July 1970; July 1979.
[2]This major group was recoded to major groups 34, 36, 37, and 38 in the 1972 SIC revision.

Table K. **Comparison of Gross Domestic Product, National Income Originating in Manufacturing, and Value Added by Manufacture 1977 and Earlier Years**

(Billion dollars)

Gross domestic product	Gross domestic product originating in manufacturing[1] [2]	National income originating in manufacturing[1] [2]	Value added by manufacture	Column A divided by column C	Column B divided by column C
	(A)	(B)	(C)	(D)	(E)
1977	462.4	411.5	585.2	.79	.70
1976	410.4	366.6	511.5	.80	.72
1975	358.2	317.7	442.5	.81	.72
1974	340.7	301.4	452.5	.75	.67
1973	326.1	285.3	405.6	.80	.70
1972	292.5	252.3	354.0	.83	.71
1971	265.6	226.5	314.1	.85	.72
1970	252.2	215.1	300.2	.84	.72
1969	256.7	221.9	304.4	.84	.73
1968	242.8	211.0	285.1	.85	.74
1967	222.3	193.7	262.0	.85	.74
1966	216.6	189.7	250.9	.86	.76
1965	197.7	171.3	226.9	.87	.76
1964	179.4	154.5	206.2	.87	.75
1963	167.4	143.8	192.1	.87	.75
1962	157.9	136.0	179.1	.88	.76
1961	144.4	125.0	164.3	.88	.76
1960	143.8	125.1	164.0	.88	.76
1959	141.3	124.3	161.5	.87	.77
1958	123.8	107.9	141.5	.87	.76
1957	131.4	116.3	147.8	.89	.79
1956	126.8	113.2	144.9	.88	.78
1954	106.4	94.7	117.0	.91	.81
1947	66.2	59.6	[3]74.3	.89	.80
1939	(NA)	18.1	[3]24.5	(X)	.74
1929	(NA)	21.9	[3]30.6	(X)	.72

(NA) Not available. (X) Not applicable.

[1]Source: Revised estimates of gross domestic product by major industries, Survey of Current Business, July 1978, p. 28; National Income and Product Accounts.

[2]In comparing gross domestic product and national income originating in manufacturing with value added, the role of change in inventories must be recognized. Census value added is value of shipments less the cost of materials adjusted for the change in book value inventories (finished goods and work in process in most industries.) Gross domestic product and national income originating in manufacture include the change in business inventories as part of gross private domestic investment. In the National Income Accounts, the book value change in inventories is adjusted for change in prices to convert it to prices similar to those used to measure the value of output. This adjustment is referred to as the inventory valuation adjustment. In periods of significant inflation, such as 1974, this adjustment can be substantial and create a slower year-to-year growth in gross domestic product originating than in value added in manufacturing, so there is a drop in gross domestic product and national income originating as a percent of value added in manufacturing. In periods of stable prices, the movements of the two inventory series usually are similar.

[3]Value added for 1947 and earlier years is unadjusted.

Table L. **Change in Manufacturing Inventories: 1977**

(Billion dollars)

Item	Value
Change in book value inventories (census)	$13.4
Inventory valuation adjustment	-8.4
Change in inventories (gross national product)	5.0

Note: In calculating gross national product, the Bureau of Economic Analysis uses the change in total inventories. In compiling value added, the Bureau of the Census typically uses finished goods and work in process inventories only. In 1977, these inventories were $9.3 billion compared with total inventories of $13.4 billion.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

is less than the GDP capital consumption allowance, adjusted for economic service lives, straight-line depreciation, and replacement cost. Census book-value depreciation was $26.7 billion, the adjusted GNP capital consumption allowance, $40.0 billion. After measurable labor costs and depreciation were deducted, unexplained census value was $231.4 billion compared with an explained GNP of $81.4 billion. Census has not been able to measure all the remaining components of value added, especially those parts which are company-type charges and profits. In 1977, information was collected on rentals and cost of communication services, and maintenance and repair purchased from other companies, a total of $22.4 billion, leaving the unexplained portion of value added at $209.0 billion. If the GDP estimates of $9.9 billion for property taxes and $71.4 billion for profits and interest payments are applied to this, there is a final unexplained portion of value added amounting to $127.7 billion.

This residual is attributable to company overhead other than central office payroll, e.g., company-level depreciation, business taxes, and purchased services (advertising, legal, accounting, and other professional services, patents, royalties, etc., not readily measurable separately at the plants).

18. CAPITAL EXPENDITURES AND GROSS ASSETS

Capital expenditures—The manufacturers were instructed to report expenditures of the type chargeable to fixed assets

Table M. COMPARATIVE STATISTICS ON CENSUS VALUE ADDED AND GROSS DOMESTIC PRODUCT: 1977

(Billion dollars)

Item	Census value added	GDP
Total	–	462.4
Less: Indirect tax (except property) business and not subsidies[1]	–	18.4
Equals	[1]585.2	444.0
Less: Compensation of employees total	327.1	322.6
Census payrolls of operating plants	242.0	–
Census payroll supplements of operating plants	49.9	–
Census payrolls of central offices and auxiliaries	[2]22.0	–
Census payrolls of sales branches offices	[2]13.2	–
Equals	258.1	121.4
Less. Additional cost measured by census of manufactures	49.1	40.0
a. Included in GDP: Capital consump. allowance[3]	26.7	40.0
b. Excluded from GDP	22.4	–
Purchased communication service	3.6	–
Purchased maintenance and repairs	11.9	–
Rental payments, building and equipment	6.9	–
Equals: Residual costs included in census value added	209.0	81.4
Less: Costs or incomes assumed to be equal to those measured in GDP	93.6	81.3
Property tax	9.9	9.9
Interest and profit type income	71.4	71.4
Difference between census book value depreciation and GDP depreciation[3]	12.3	–
Equals: Remaining costs in value added (company overhead, other than payrolls included above: e.g., company-level depreciations, business taxes, and services purchased by company or directly by plants (advertising, legal, accounting, and other professional services; communications, patent fees, royalties, travel costs, etc.)	115.4	(.1)

[1] Census measures value of shipments exclusive of sales and excise taxes. Property taxes are a cost included in value added.

[2] There is strong evidence that most companies include the payroll of administrative offices and auxiliaries and all sales offices in setting the f.o.b. value of shipments from their manufacturing plants. Those costs are, thus, included in value added. Many companies also indicate that they include the cost of sales branches, although this may not be universally true (see "value of shipments" in text).

accounts, for which depreciation reserves are normally maintained. Actual capital outlays during the year were requested, not the final value of equipment put in place or structures completed during the year.

The Bureau of the Census estimates of capital expenditures tend to be lower than those published by BEA in its quarterly survey of expenditures for plant and equipment. In addition to normal sampling variation, a major source of difference rests in the scope of the two series. Census data relate only to manufacturing establishments.

The BEA series relating to manufacturing includes all establishments of manufacturing companies, nonmanufacturing as well as manufacturing, but excludes manufacturing establishments of companies that they have classified as chiefly nonmanufacturing. This difference in the two series is particularly important in the petroleum industry where company expenditures for developing new wells and new distribution facilities are ordinarily much larger than their capital expenditures at refineries. The BEA and Census data for recent years are shown in tables N and O.

Table N. Expenditures for New Plant and Equipment—BEA Series and Census: 1977 and Earlier Years

(Billion dollars)

Year	BEA-series[1]	Census (census of manufactures and ASM)[2]	Column B divided by column A
	(A)	(B)	(C)
1977	69.2	47.5	.69
1976	59.9	40.5	.68
1975	54.9	37.3	.68
1974	53.2	35.7	.67
1973	42.4	27.0	.64
1972	35.4	24.1	.69
1971	33.6	20.9	.62
1970	37.0	22.2	.60
1969	36.3	22.3	.61
1968	32.3	20.6	.64
1967	32.3	21.5	.67
1966	31.4	20.2	.64
1965	25.4	16.6	.65
1964	21.2	13.3	.63
1963	17.3	11.4	.66
1962	16.0	10.0	.63
1961	15.5	9.8	.63
1960	16.4	10.0	.61
1959	13.8	9.3	.67
1958	13.0	9.6	.74
1954	12.0	8.2	.68
1947	8.7	[2]6.0	.69

[1] Source, U.S. Department of Commerce, Survey of Current Business, October 1980.

[2] Excludes data for establishments under construction but not yet in operation.

[3] Capital consumption allowances in GDP and depreciation as collected in the census are not completely comparable. Depreciation reported in the census is that carried on the books of the establishment and is charged against the original purchase cost of the assets. In the GNP accounts, a "capital consumption adjustment" is made to place the depreciation more on a replacement cost basis. Specifically, it is "the tax-return-based capital consumption allowances, less capital consumption allowances, that are based on estimates of economic service lives, straight-line depreciation, and replacement cost."

Source: Department of Commerce, Bureau of Economic Analysis, and Bureau of the Census.

Table 0. **Expenditures for New Plant and Equipment—BEA Series and Census of Manufactures, by Industry Group: 1977**

(Billion dollars)

Industry groups	BEA series[1]		Census of manufactures		Census as percent of BEA	
	1977	1972	1977	1972	1977	1972
All manufacturing.....	69.2	35.4	47.5	24.1	.69	.68
Durable goods.....	34.0	18.1	24.4	12.7	.72	.70
Primary metals.....	5.4	2.4	4.5	2.1	.83	.88
Fabricated metal.....	2.5	1.4	2.6	1.3	1.04	.93
Electric machinery.....	4.7	2.8	2.9	1.4	.62	.50
Machinery, except electric..	6.6	3.2	4.4	1.9	.67	.59
Transportation equipment....	9.1	4.4	4.7	2.7	.52	.61
Stone, clay, and glass.....	2.2	1.3	1.9	1.2	.86	.92
Other durables.....	3.5	2.6	3.4	2.1	.97	.81
Nondurable goods.....	35.2	17.3	23.2	11.4	.66	.66
Food and beverages.....	5.1	3.3	4.2	2.4	.82	.73
Textiles.....	1.3	1.1	1.2	1.1	.92	1.00
Paper.....	3.6	1.5	3.3	1.3	.92	.87
Chemicals.....	8.1	3.4	8.2	2.7	1.01	.79
Petroleum.....	12.7	4.8	2.3	1.2	.18	.25
Rubber.....	1.7	1.0	1.6	1.1	.94	1.10
Other nondurables.....	2.7	2.2	2.4	1.6	.89	.73

[1]Source: U.S. Department of Commerce, Survey of Current Business, October 1980.

Gross value of fixed assets—In addition to reporting capital expenditures during the year, the manufacturers were requested to report the original cost value of fixed assets (structures and machinery and equipment) in place at the end of the year, along with depreciation and retirements during the year. This series, however, is based on reports filed in the ASM sample. It is conceptually comparable with the capital expenditures data. As the census capital expenditures series differs from the BEA series, so the census gross assets series will differ from similar series based on company level reports, i.e., those appearing in the IRS Statistics of Income and the FTC Quarterly Financial Report of Corporations. Since the census assets series is also based on sample estimates from the ASM, it is subject to a sampling error. (See appendix A for more complete definitions of terms.)

19. INVENTORIES

The value of end-of-year inventories held by each manufacturing establishment was obtained for each year. Separate information was requested for—

a. Finished goods,
b. Work-in-process, and
c. Materials, supplies, fuel, and other inventories.

A measure of the changes in inventories from the beginning to the end of each year is essential to the conversion of value of shipments during the year to value of production, and, therefore, to the calculation of value added. The ratios of inventories to shipments at different times are also used in analysis of trends and business-cycle movements. For the best use of all of these measures, the inventories should be valued in the same prices as the shipments. Census inventory statistics have some limitations in these uses.

The inventories, as collected currently and in the past, have been the inventories as carried in the books of each respondent. In aggregating those inventories and calculating inventory changes, census procedures make no adjustments for the different methods of inventory valuation used by the respondents. Change in inventories and the relationship of inventories to shipments can vary significantly depending on whether last-in first-out (LIFO) or some historical method such as first-in first-out (FIFO) is used. These differences can become very significant in periods of rapid- and large-price changes. In recent years, the Bureau of the Census has been obtaining information on the preparation of inventories valued by the different accounting methods, both in its monthly surveys and the annual survey of manufactures. Some results have been published in the monthly Manufacturers' Shipments, Inventories, and Orders survey but none for the ASM. Considerable difficulty has been encountered in obtaining results of publication quality because of the complexity of the accounting at the establishment level and corporate level in large companies. Unofficial results have been made available to BEA to assist them in their adjustment of book value inventories to current and constant prices for use in the national income accounts. Some of the anomalies in the census value added and the national income originating in manufactures are due to the different treatment of inventory change in the two series.

In using inventory data by stage of fabrication for all industries at the industry level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by another establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for individual industries, industry groups, and all manufacturing which are merely aggregates of figures reported by establishments in specified industries.

For a few industries in the food group, there are special problems in the handling of inventories by stage of fabrication. These are industries in which the products are aged. Included among such types of products are stemmed and dried tobacco, cheese, and whiskey. It is not clear whether such products should be treated as finished-goods inventories or as work in process while in storage. In all these industries, substantial finished goods inventroies have been reported. These data have been summarized in the inventory tables in a consistent manner for all of the years included in this report.

20. PLANT SPECIALIZATION

As discussed in item 4 above, the primary products of a plant are those which determine its industry classification; all other products are referred to as secondary products. The value of a plant's primary products in comparison to its total production is referred to as its degree of specialization. For each plant, two measures of specialization were computed:

a. A 4-digit primary product-specialization ratio, which is the sum of the values of all the plant's primary products divided by the sum of all its primary and secondary products.

b. A 5-digit primary product-class specialization ratio, which is the sum of the largest 5-digit product-class value divided by the sum of its primary and secondary products (the miscellaneous receipts of the establishment were not included in these calculations). For example, assume that an establishment reported the following:

Total value of shipments and other receipts	$1,000
Miscellaneous receipts (resales, etc.)	15
Total value of products shipped	985
32731, Concrete pipe products	100
32722, Precast concrete products	785
32730, Ready-mixed concrete	100

This plant would be coded into Industry 3272, Concrete Products, with a primary product specialization ratio of 90 percent ($885 ÷ 985); it would be subclassified into the 5-digit Class 32722, Precast Concrete, with a primary product class specialization ratio of 80 percent ($785 ÷ 985).

21. CONFIDENTIALITY

The Bureau of the Census is prohibited by law from publishing any statistics that disclose information reported by individual companies. In suppressing figures to avoid disclosing information of individual companies, individual States are given precedence over geographic regions and divisions. This is an innovation for 1977, since in prior censuses the larger geographic areas were given precedence. As a result of this change in philosophy, it has become more difficult to produce industry detail for the larger geographic areas and data for the these areas are no longer published. States are given precedence over standard metropolitan statistical areas; standard metropolitan statistical areas over counties; and counties over cities.

In tables showing industry detail, major industry group (2-digit) totals take precedence over industry group (3-digit) totals which, in turn, take precedence over individual (4-digit) industries. Similarly, in product tables, 4-digit product groupings take precedence over 5-digit product classes and the latter over individual 7-digit products.

Such order of precedence was used because:

a. It was considered preferable to show State data for an industry, even at the cost of withholding data for a region. In recent years, there seemed to be more need for and use of data for individual States than for the larger regions—especially since many regional development programs encompassed clusters of States different from the standard regions and divisions.
b. By giving preference to industry-group statistics over individual industries within each State, the extent to which individual States can be compared within the SIC industry classification framework is greatly increased.

22. MICROFICHE AND COMPUTER TAPES

Data in many tables in the census volumes are available on microfiche and on computer tape.

One major data series, the Location of Manufacturing Plants, will be available only on computer tape. This series presents the number of establishments by employment size class by 4-digit SIC industry codes for States, counties, and places of 2,500 inhabitants or more. These data are available for both State and county by industry and State and place by industry.

Microfiche reports and computer tapes are sold by Customer Services (Microfiche/Tapes), Data User Services Division, Bureau of the Census, Washington, D.C. 20233.

23. SPECIAL TABULATIONS

Special tabulations of data collected in the 1977 Census of Manufactures may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief, Industry Division, Bureau of the Census, Washington, D.C. 20233.

24. ABBREVIATIONS

The following abbreviations and symbols occur frequently in text, tables, and footnotes:

—	Zero
(X)	Not applicable
(NA)	Not available
(D)	Withheld to avoid disclosing operations of individual companies
n.e.c	Not elsewhere classified
n.s.k.	Not specified by kind
(S)	Suppressed
(Z)	Less than one half of unit of measure shown
lin.	Linear
equiv.	Equivalent
hp	Horsepower
kWh	Kilowatt-hours
SIC	Standard Industrial Classification
IRS	Internal Revenue Service
SSA	Social Security Administration
ASM	Annual Survey of Manufactures
CIR	Current Industrial Reports
BEA	Bureau of Economic Analysis
SEC	Securities and Exchange Commission
GNP	Gross National Product

Other abbreviations, such as lb, gal, yd, doz, and bbl, are used in the customary sense. Where the term "tons" only is used, it refers to short tons of 2,000 pounds; where the figures are expressed in tons of 2,240 pounds, the unit of measure is specified as "long tons" or "gross tons."

Data in this publication may differ slightly from the industry and area reports previously published. These differences are due to corrections which were made for minor errors identified after the industry and area reports were issued. This report reflects these corrections.

USERS' GUIDE IN LOCATING STATISTICS BY TABLE NUMBER IN THE INDUSTRY CHAPTERS

(For explanation of terms, see appendix A)

	Item	4-digit industry statistics		
		Historical	Operating ratios	By geographic area
1	Number of manufacturing establishments	1a		2
	Employment and payroll:			
2	Number of employees	1a	1b	2
3	Payroll	1a	1b	2
4	Supplemental labor costs			
5	Production workers	1a	1b	2
6	Production worker hours	1a	1b	2
7	Production worker wages	1a	1b	2
	Shipments, cost of materials, and value added:			
8	Value of shipments (4-digit)	1a	1b	2
9	Product class shipments (5-digit)			
10	Product shipments (7-digit)			
11	Value added by manufacture	1a	1b	2
12	Cost of materials	1a	1b	2
13	Cost of fuels and electric energy			
14	Materials consumed by kind			
	Inventories:			
15	End of year	1a		
16	Stage of fabrication			
	Capital expenditures, assets, rental payments, and purchased services:			
17	New capital expenditures	1a		2
18	Used plant and equipment expenditures			
19	Gross assets	1a	1b	
20	Depreciation			
21	Retirements of buildings and machinery			
22	Rental payments			
23	Purchased services			
	Ratios:			
24	Specialization	1a		
25	Coverage	1a		

[1] Detailed information shown.

4-digit industry statistics—Con.				5-digit product class and 7-digit product statistics				
Summary and supplemental	By employment size	By industry and product class specialization	Materials consumed by kind	Industry-product analysis	Product shipments	Product class by geographic area	Historical product class	
[1] 3a	4	5a						1
3a	4	5a						2
3a	4	5a						3
[1] 3b								4
[1] 3a	4	5a						5
[1] 3a	4	5a						6
3a	4	5a						7
3a	4	5a		5b, 5c				8
				5b, 5c	6a	6b	6c	9
					6a			10
3a	4	5a						11
[1] 3a	4	5a						12
3a								13
			7a					14
3a	4							15
3a								16
[1] 3a, [1] 3b	4	5a						17
[1] 3a, [1] 3b								18
[1] 3b								19
[1] 3b								20
[1] 3b								21
[1] 3b								22
[1] 3b								23
3a				5b				24
3a				5b				25

General Summary

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Table 1. **Statistics for All Manufacturing Establishments Including Administrative Offices and Auxiliaries: 1977 and Earlier Years**

Year	All establishments		All employees[1]		Production workers			Value added by manufacture[3] (million dollars)	Value of industry shipments (million dollars)	New capital expenditures[4] (million dollars)	Index of industrial[5] production (1977=100)
	Total (number)	With 20 employees or more (number)	Number[2] (1,000)	Payroll (million dollars)	Number[2] (1,000)	Hours (million)	Wages (million dollars)				
1977	359,928	118,699	19,590.1	264,013.1	13,691.0	26,686.7	157,163.7	585,165.6	1,358,526.4	47,459.0	100.0
1976[6]	(NA)	(NA)	18,753.0	233,388.7	13,052.0	25,354.2	137,565.4	511,471.1	1,185,695.3	40,669.9	94.5
1975[6]	(NA)	(NA)	18,302.2	209,519.0	12,568.9	24,069.6	121,429.0	442,485.2	1,039,377.4	37,262.1	84.8
1974[6]	(NA)	(NA)	19,844.4	208,312.0	13,927.1	27,251.0	124,977.1	452,497.0	1,017,873.4	35,546.1	94.4
1973[6]	(NA)	(NA)	19,844.8	193,324.5	14,232.8	28,096.9	118,332.6	405,583.6	875,443.2	26,972.9	94.7
1972	320,710	114,195	19,028.7	174,205.5	13,527.9	26,699.2	105,501.8	353,994.0	756,534.3	24,077.7	86.7
1971[6]	(NA)	(NA)	18,363.1	156,202.8	12,874.9	25,265.9	93,231.7	314,138.4	670,970.5	20,940.7	78.9
1970[6]	(NA)	(NA)	19,217.2	153,078.5	13,528.0	26,669.3	91,609.0	300,227.6	634,322.1	22,164.2	77.6
1969[6]	(NA)	(NA)	20,035.5	152,765.6	14,357.8	28,599.8	93,459.6	304,440.7	642,635.8	22,291.2	81.0
1968[6]	(NA)	(NA)	19,527.6	141,822.7	14,041.2	28,156.8	87,480.4	285,058.9	603,220.1	20,613.1	77.6
1967	311,140	110,256	19,323.2	132,208.4	13,955.3	27,837.6	81,393.6	261,983.8	557,397.8	21,503.0	72.9
1966[6]	(NA)	(NA)	19,024.5	125,350.0	13,826.5	28,102.5	78,256.4	250,880.1	538,736.9	20,235.8	72.1
1965[6]	(NA)	(NA)	18,010.2	113,972.2	13,076.0	26,567.8	71,361.5	226,939.9	492,005.7	16,615.0	64.9
1964[6]	(NA)	(NA)	17,268.5	106,403.3	12,403.3	25,245.5	65,838.9	206,193.6	447,985.1	13,294.3	59.1
1963	311,931	102,296	16,958.4	99,898.8	12,232.0	24,509.4	62,093.6	192,082.9	420,528.1	11,370.0	55.3
1962[6]	(NA)	(NA)	16,765.6	94,291.2	12,126.5	24,269.5	59,134.1	179,071.1	399,308.9	10,436.2	52.2
1961[6]	(NA)	(NA)	16,331.2	88,127.8	11,778.5	23,289.4	54,764.6	164,281.1	369,994.3	9,779.8	47.8
1960[6]	(NA)	(NA)	16,762.7	88,087.1	12,209.5	24,174.4	55,555.5	163,998.5	(NA)	10,097.8	47.7
1959[6]	(NA)	(NA)	16,662.2	85,642.0	12,272.6	24,443.6	54,714.1	161,535.8	(NA)	9,140.0	46.8
1958[7]	303,303	95,310	16,025.2	78,348.9	11,681.1	22,679.2	49,605.2	141,540.6	326,722.8	9,543.5	41.6
1957[6]	(NA)	(NA)	17,104.7	79,354.0	12,828.9	25,208.0	52,569.0	147,838.4	(NA)	12,144.0	44.6
1956[6]	(NA)	(NA)	17,178.3	77,059.0	13,131.3	26,088.5	52,040.8	144,909.3	(NA)	11,233.2	44.1
1955[6]	(NA)	(NA)	16,818.5	72,126.0	12,954.4	25,898.3	49,217.9	135,022.5	(NA)	8,233.1	42.5
1954[7]	(NA)	(NA)	16,125.6	65,977.0	12,372.0	24,334.1	44,590.5	117,032.3	(NA)	8,200.7	37.6
1953[6]	(NA)	(NA)	17,093.0	68,590.4	13,500.9	27,065.6	48,979.1	121,659.1	(NA)	8,047.9	40.3
1952[6]	(NA)	(NA)	16,061.0	61,140.6	12,706.0	25,617.6	43,763.6	109,162.1	(NA)	7,883.4	36.9
1951[6]	(NA)	(NA)	15,638.0	56,283.8	12,508.9	25,263.8	40,654.8	102,085.8	(NA)	7,781.7	35.4
1950[6]	(NA)	(NA)	14,769.9	47,892.9	11,778.8	23,716.5	34,600.0	89,749.8	(NA)	5,041.3	32.8
1949[6]	(NA)	(NA)	13,880.1	42,752.0	11,016.3	21,769.7	30,254.0	75,366.5	(NA)	5,066.9	28.2
1947	240,807	(NA)	14,294.0	39,695.6	11,917.9	24,316.5	30,244.0	74,290.5	(NA)	5,998.1	28.7
1939[8]	173,802	(NA)	[9]9,527.3	[9]12,706.1	7,808.2	(NA)	8,997.5	24,487.3	(NA)	(NA)	15.7
1937	166,794	(NA)	9,786.4	12,829.7	8,569.2	(NA)	10,112.9	25,173.5	(NA)	(NA)	(NA)
1935[7]	167,916	(NA)	8,262.3	9,564.8	7,203.8	(NA)	7,311.3	18,552.6	(NA)	(NA)	(NA)
1933	139,325	(NA)	6,557.9	[10]6,237.8	5,787.6	(NA)	4,940.1	14,007.5	(NA)	(NA)	10.2
1931	171,450	(NA)	(NA)	(NA)	6,163.1	(NA)	6,688.5	18,600.5	(NA)	(NA)	(NA)
1929	206,663	(NA)	9,659.7	14,284.3	8,369.7	(NA)	10,884.9	30,591.4	(NA)	(NA)	(NA)
1927	187,629	(NA)	9,072.1	13,123.1	7,848.1	(NA)	10,099.5	26,325.4	(NA)	(NA)	16.6
1925	183,877	(NA)	9,142.4	12,957.7	7,871.4	(NA)	9,979.6	25,667.6	(NA)	(NA)	(NA)
1923	192,096	(NA)	9,474.7	12,996.5	8,194.2	(NA)	10,148.6	24,569.5	(NA)	(NA)	(NA)
1921	192,059	(NA)	7,557.4	9,870.2	6,475.5	(NA)	7,451.3	17,252.8	(NA)	(NA)	(NA)
1919	270,231	(NA)	9,836.8	12,426.9	8,464.9	(NA)	9,664.0	23,841.6	(NA)	(NA)	(NA)
1914	268,436	(NA)	7,514.2	5,016.0	6,602.3	(NA)	3,782.3	9,385.6	(NA)	(NA)	(NA)
1909	264,810	(NA)	7,021.1	4,105.5	6,261.7	(NA)	3,205.2	8,160.1	(NA)	(NA)	(NA)
1904	213,444	(NA)	5,674.9	2,990.9	5,181.7	(NA)	2,440.9	6,019.2	(NA)	(NA)	(NA)
1899	204,754	(NA)	4,850.0	2,258.7	4,501.9	(NA)	1,892.6	4,647.0	(NA)	(NA)	(NA)
1899[11]	509,490	(NA)	5,478.3	2,595.6	5,097.6	(NA)	2,206.5	5,474.9	(NA)	(NA)	(NA)
1889	353,864	(NA)	4,586.5	2,209.1	4,129.4	(NA)	1,820.9	4,120.3	(NA)	(NA)	(NA)
1879	253,852	(NA)	(NA)	(NA)	2,732.6	(NA)	948.0	1,972.8	(NA)	(NA)	(NA)
1869	252,148	(NA)	(NA)	(NA)	2,054.0	(NA)	620.5	1,395.1	(NA)	(NA)	(NA)
1859	140,433	(NA)	(NA)	(NA)	1,311.2	(NA)	378.9	854.3	(NA)	(NA)	(NA)
1849	123,025	(NA)	(NA)	(NA)	957.1	(NA)	236.8	464.0	(NA)	(NA)	(NA)

(NA) Not available.

[1]The figures for 1939 to 1977 include data for employees at manufacturing establishments who were engaged in distribution and in construction work. The extent to which data for such employees were included in the figures for earlier years is not known. In addition to the employment and payroll for operating manufacturing establishments, manufacturing companies reported separately for administrative offices or auxiliary units (e.g., research laboratories, storage warehouses, power plants, garages, repair shops, etc.) that service the manufacturing establishment(s) of a company. These data are included in the total employment, payroll, and establishment figures for the years 1949 to 1977.

[2]The method of compiling these figures varied, as follows: All employees: For 1955 to 1977, figures represent the average of the number of production workers for the payroll period ended nearest the 12th of March, May, August, and November, plus all other employees for the payroll period ended nearest the 12th of March; for 1949 to 1954, they represent an average of all employees for the payroll period ended nearest the 12th of March, May, August, and November; for 1947, an average of 12 monthly figures for all employees; and for 1939 and prior years, the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). Production workers: For 1949 to 1977, figures are based on employment for the payroll period ended nearest the 12th of March, May, August, and November; and for 1947 and prior years, they represent the average of 12 monthly figures.

[3]For the period 1954 to 1977, value added by manufacture represents adjusted value added, and for earlier years, unadjusted value added. Unadjusted value added is obtained by substracting the cost of materials, supplies and containers, fuel, purchased electric energy, and contract work from the value of shipments for products manufactured plus receipts for services rendered. Adjusted value added also takes into account (a) value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacture, processing, or assembly), plus (b) the net change in finished goods for work-in-process inventories between the beginning and end of the year. For 1849 to 1933, cost of contract work was not subtracted from value of shipments in calculating value added by manufacture.

[4]The figures for 1951 to 1977 include expenditures for plants under construction and not yet in operation. This information was not collected prior to 1951.

Footnotes are continued on next page.

[5]Source: Board of Governors, Federal Reserve System.

[6]These figures represent estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, therefore, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The standard errors associated with these estimates are published in the annual survey of manufactures volumes for this period.

[7]The 1958 and subsequent years figures include establishments classified in Industry 3273, Ready-Mixed Concrete, and establishments classified in Industry 3599, Machinery, Except Electrical, N.E.C., that were engaged exclusively or almost exclusively in machine shop repair work. The data for such establishments are excluded from the figures for the period 1939 to 1957, but are included for 1929 and earlier years. The 1954 to 1966 figures include data for establishments engaged in the processing and distribution of fluid milk, Industry 202, Dairy Products. These establishments were not included in the figures for earlier census years. In addition, beginning with 1954, the figures include data for Industry 2411, Logging Camps and Logging Contractors, which were not included within the scope of the 1947 census. There were also a number of changes in the definition of manufacturing industries during earlier census years that affect the comparability of the historical series. Among the more important of these were the following: Figures for 1935 and later years exclude data for railroad repair shops and manufactured gas, which were included in 1899 to 1933 figures; the minimum size of establishment included for 1947 to 1966 was one employee; for 1921 to 1939, manufacturing establishments reporting value of shipments of $5,000 or more were within scope; whereas, for 1919 and earlier years, the cutoff was $500. (These changes in procedure have not appreciably affected the comparability of the historical data except for the figures on number of establishments.)

[8]The figures for 1939, but not for earlier years, have been revised on the basis of retabulation of the returns to exclude data for establishments classified as manufacturing in 1939 and prior years but classified as nonmanufacturing beginning with 1947. Value added by manufacture for 1939, prior to revision and on a basis comparable with 1937 and previous year, was $24.7 billion.

[9]The 1939 figures for all employees were revised on the basis of estimates rather than by retabulation of the 1939 reports. The estimates were made in the following manner: For the number of employees, by multiplying the retabulated figure for number of production workers by the ratio of all employees to production workers computed from the unrevised 1939 statistics; for salaries and wages, by multiplying the retabulated wage figure by the ratio for salaries and wages also derived from the unrevised 1939 statistics.

[10]Not including data for salaried officers of corporations and their salaries and, therefore, not strictly comparable with figures for other years.

[11]These figures for 1899 and earlier years represent hand and neighborhood manufacturing operations.

Table 2. **Operating Ratios for All Manufacturing Establishments Including Administrative Offices and Auxiliaries: 1977 and Earlier Years**

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
1977.....	13,477	22,406	70	1,949	5.89	58	77	32	29,871	45	21.93
1976.....	12,445	21,423	70	1,943	5.43	57	77	34	27,274	46	20.17
1975.....	11,448	20,075	69	1,915	5.04	57	78	35	24,177	47	18.38
1974.....	10,497	17,131	70	1,957	4.59	57	78	33	22,802	46	16.60
1973.....	9,716	15,889	72	1,974	4.21	55	77	36	20,383	48	14.44
1972.....	9,155	15,799	71	1,974	3.95	54	77	40	18,603	49	13.26
1971.....	8,506	15,107	70	1,962	3.69	53	76	41	17,107	50	12.43
1970.....	7,966	13,910	70	1,971	3.43	53	78	42	15,623	51	11.26
1969.....	7,625	12,440	72	1,992	3.27	53	77	39	15,195	50	10.64
1968.....	7,263	11,869	72	2,005	3.11	53	77	38	14,598	50	10.12
1967.....	6,842	11,286	72	1,995	2.92	54	77	39	13,558	50	9.41
1966.....	6,589	(NA)	73	2,033	2.78	55	78	(NA)	13,188	50	8.93
1965.....	6,328	(NA)	73	2,032	2.69	55	78	(NA)	12,601	50	8.54
1964.....	6,162	9,726	72	2,035	2.61	54	78	37	11,940	52	8.17
1963.....	5,890	9,294	72	2,004	2.53	55	78	37	11,325	52	7.84
1962.....	5,624	8,890	72	2,001	2.44	55	79	37	10,681	53	7.38
1961.....	5,396	(NA)	72	1,977	2.35	56	80	(NA)	10,059	54	7.05
1960.....	5,255	(NA)	73	1,980	2.30	(NA)	(NA)	(NA)	9,784	54	6.78
1959.....	5,140	(NA)	74	1,992	2.24	(NA)	(NA)	(NA)	9,695	53	6.61
1958.....	4,889	(NA)	73	1,942	2.19	(NA)	(NA)	(NA)	8,832	55	6.24
1957.....	4,639	6,460	75	1,963	2.09	(NA)	(NA)	(NA)	8,643	54	5.86
1956.....	4,486	(NA)	76	1,987	1.99	(NA)	(NA)	(NA)	8,436	53	5.55
1955.....	4,288	(NA)	77	1,999	1.90	(NA)	(NA)	(NA)	8,028	53	5.21
1954.....	4,091	(NA)	77	1,967	1.83	(NA)	(NA)	(NA)	7,258	56	4.81
1953.....	4,013	(NA)	79	2,005	1.81	(NA)	(NA)	(NA)	7,117	56	4.49
1952.....	3,807	(NA)	79	2,016	1.71	(NA)	(NA)	(NA)	6,797	56	4.26
1951.....	3,586	(NA)	80	2,020	1.61	(NA)	(NA)	(NA)	6,539	55	4.04
1950.....	3,243	(NA)	80	2,013	1.46	(NA)	(NA)	(NA)	6,077	53	3.78
1949.....	3,080	(NA)	79	1,976	1.39	(NA)	(NA)	(NA)	5,430	57	3.46
1947.....	2,777	(NA)	83	2,040	1.24	(NA)	(NA)	(NA)	5,197	53	3.06
1939.....	1,334	(NA)	82	(NA)	(NA)	(NA)	(NA)	(NA)	2,570	52	(NA)
1937.....	1,311	(NA)	88	(NA)	(NA)	(NA)	(NA)	(NA)	2,572	51	(NA)
1935.....	1,158	(NA)	87	(NA)	(NA)	(NA)	(NA)	(NA)	2,245	52	(NA)
1933.....	951	(NA)	88	(NA)	(NA)	(NA)	(NA)	(NA)	2,136	45	(NA)
1931.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1929.....	1,479	(NA)	87	(NA)	(NA)	(NA)	(NA)	(NA)	3,167	47	(NA)
1927.....	1,447	(NA)	87	(NA)	(NA)	(NA)	(NA)	(NA)	2,902	50	(NA)
1925.....	1,417	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,808	50	(NA)
1923.....	1,372	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,593	53	(NA)
1921.....	1,306	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,283	57	(NA)
1919.....	1,263	(NA)	86	(NA)	(NA)	(NA)	(NA)	(NA)	2,424	52	(NA)
1914.....	668	(NA)	88	(NA)	(NA)	(NA)	(NA)	(NA)	1,249	53	(NA)
1909.....	585	(NA)	89	(NA)	(NA)	(NA)	(NA)	(NA)	1,162	50	(NA)
1904.....	527	(NA)	91	(NA)	(NA)	(NA)	(NA)	(NA)	1,061	50	(NA)
1899.....	466	(NA)	93	(NA)	(NA)	(NA)	(NA)	(NA)	958	49	(NA)
1899.....	474	(NA)	93	(NA)	(NA)	(NA)	(NA)	(NA)	999	47	(NA)
1889.....	482	(NA)	90	(NA)	(NA)	(NA)	(NA)	(NA)	894	54	(NA)
1879.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1869.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1859.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1849.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

Note: For qualifications to data, see footnotes on table 1.

(NA) Not available.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
	ALL INDUSTRIES, TOTAL	300 393	359 928	118 699	19 590.1	264 013.1	13 691.0	26 686.7	157 162.7	585 165.6	1358 526.4
20	FOOD AND KINDRED PRODUCTS	20 616	26 656	11 038	1 520.0	18 543.6	1 072.0	2 112.4	11 730.7	56 062.2	192 911.6
201	MEAT PRODUCTS	3 967	4 534	1 715	309.1	3 701.5	254.0	499.8	2 817.0	7 478.0	46 276.3
2011	MEATPACKING PLANTS	2 403	2 590	737	146.2	2 110.6	116.5	237.2	1 625.9	4 010.1	31 208.2
2013	SAUSAGES AND OTHER PREPARED MEATS	1 213	1 345	570	65.0	891.9	50.1	100.4	626.6	2 039.0	8 465.4
2016	POULTRY DRESSING PLANTS	313	446	313	86.8	612.3	77.7	143.6	496.3	1 236.9	5 746.1
2017	POULTRY AND EGG PROCESSING	124	153	95	11.1	86.8	9.8	18.6	68.1	192.0	856.6
202	DAIRY PRODUCTS	2 837	3 731	1 617	153.9	1 938.9	85.0	175.6	987.6	5 648.3	26 009.8
2021	CREAMERY BUTTER	123	138	39	2.3	26.3	1.7	3.6	18.1	74.6	900.5
2022	CHEESE, NATURAL AND PROCESSED	660	791	293	26.7	287.0	22.2	44.0	223.4	948.8	6 126.0
2023	CONDENSED AND EVAPORATED MILK	167	266	148	12.3	163.2	9.0	18.9	110.7	805.2	3 188.5
2024	ICE CREAM AND FROZEN DESSERTS	507	612	229	19.1	247.0	11.4	22.7	130.1	643.7	2 008.6
2026	FLUID MILK	1 516	1 924	908	93.5	1 215.4	40.8	86.3	505.4	3 175.9	13 786.2
203	PRESERVED FRUITS AND VEGETABLES	1 752	2 379	1 263	234.7	2 336.0	198.7	377.2	1 792.8	7 684.5	20 332.8
2032	CANNED SPECIALTIES	172	203	88	26.4	296.5	21.5	42.4	224.3	[2]1 142.6	[2]2 829.2
2033	CANNED FRUITS AND VEGETABLES	648	900	519	82.6	789.8	72.6	135.0	636.6	[2]2 542.4	[2]6 662.8
2034	DEHYD. FRUITS, VEGETABLES, SOUPS	143	184	87	14.4	153.9	11.7	22.1	111.5	472.6	1 142.4
2035	PICKLES, SAUCES, SALAD DRESSINGS	380	438	168	23.5	250.2	18.9	35.7	184.9	[2]986.5	[2]2 996.5
2037	FROZEN FRUITS AND VEGETABLES	187	260	193	46.8	425.9	41.5	78.5	344.7	[2]1 322.5	[2]3 297.5
2038	FROZEN SPECIALTIES	330	394	208	41.0	419.8	32.5	63.4	290.9	[2]1 217.7	[2]3 404.4
204	GRAIN MILL PRODUCTS	2 094	3 043	1 076	112.8	1 575.6	79.3	165.5	1 034.2	6 625.6	22 344.2
2041	FLOUR, OTHER GRAIN MILL PRODUCTS	301	407	173	15.6	222.3	11.3	24.6	153.4	824.5	3 683.3
2043	CEREAL BREAKFAST FOODS	32	48	35	16.4	287.4	13.8	28.8	230.0	1 447.0	2 497.5
2044	RICE MILLING	47	59	39	4.8	61.4	4.0	8.4	40.7	341.0	1 263.4
2045	BLENDED AND PREPARED FLOUR	111	137	60	8.4	104.5	5.8	12.1	68.0	408.7	1 011.7
2046	WET CORN MILLING	24	39	27	10.9	191.1	7.8	15.7	132.2	666.7	2 014.8
2047	DOG, CAT, AND OTHER PET FOOD	218	290	132	17.7	245.5	13.4	27.7	170.3	1 392.9	3 086.7
2048	PREPARED FEEDS, NEC	1 435	2 063	610	39.1	463.4	23.2	48.2	239.6	1 544.7	8 786.8
205	BAKERY PRODUCTS	2 797	3 386	1 289	221.7	2 866.1	131.4	258.7	1 525.0	7 073.2	[3]12 235.3
2051	BREAD, CAKE, AND RELATED PRODUCTS	2 549	3 062	1 117	178.0	2 335.8	97.4	191.7	1 152.8	5 377.2	9 274.9
2052	COOKIES AND CRACKERS	263	324	172	43.8	530.2	34.0	67.0	372.2	1 695.9	2 960.5
206	SUGAR, CONFECTIONERY PRODUCTS	990	1 198	518	105.4	1 206.2	83.7	164.8	868.3	4 150.9	10 839.8
2061	RAW CANE SUGAR	49	65	55	8.0	95.8	6.3	13.6	70.8	275.7	704.0
2062	CANE SUGAR REFINING	27	40	27	10.2	168.9	7.2	15.4	116.4	526.2	2 260.0
2063	BEET SUGAR	14	57	52	11.4	143.3	9.9	21.3	119.0	344.9	1 181.7
2065	CONFECTIONERY PRODUCTS	867	962	343	58.0	584.2	47.0	89.1	415.5	2 028.0	4 498.4
2066	CHOCOLATE AND COCOA PRODUCTS	47	56	27	10.0	130.2	7.2	13.9	84.0	640.6	1 629.2
2067	CHEWING GUM	14	18	14	7.7	83.9	6.0	11.6	62.7	335.5	566.5
207	FATS AND OILS	591	869	458	41.1	561.4	29.6	64.3	365.4	1 905.2	14 480.0
2074	COTTONSEED OIL MILLS	62	97	71	5.2	51.5	4.1	9.3	35.9	197.4	859.2
2075	SOYBEAN OIL MILLS	65	121	87	9.4	130.7	6.6	14.7	87.8	373.8	7 580.0
2076	VEGETABLE OIL MILLS, NEC	37	42	19	1.5	17.6	1.1	2.5	12.2	58.4	360.8
2077	ANIMAL AND MARINE FATS AND OILS	384	500	201	12.4	171.2	8.7	19.2	103.8	583.8	1 655.0
2079	SHORTENING AND COOKING OILS	66	109	80	12.7	190.5	9.0	18.7	125.8	691.8	4 025.0
208	BEVERAGES	2 440	3 104	1 689	195.1	2 848.9	99.5	200.1	1 368.7	9 900.9	23 329.0
2082	MALT BEVERAGES	81	131	91	44.0	857.5	31.1	61.1	589.1	2 602.3	6 652.6
2083	MALT	27	40	27	1.6	27.4	1.2	2.5	20.0	101.4	499.3
2084	WINES, BRANDY, AND BRANDY SPIRITS	233	269	76	9.2	134.1	5.4	10.5	69.6	510.4	1 362.5
2085	DISTILLED LIQUOR, EXCEPT BRANDY	64	104	77	15.7	232.1	12.0	23.8	168.1	[2]1 149.7	[2]2 296.1
2086	BOTTLED AND CANNED SOFT DRINKS	1 758	2 192	1 286	114.1	1 448.8	43.4	89.3	444.8	4 084.5	10 007.2
2087	FLAVORING EXTRACTS, SIRUPS, NEC	319	368	132	10.5	149.1	6.3	12.9	77.1	1 452.6	2 511.3
209	MISC. FOODS, KINDRED PRODUCTS	3 794	4 412	1 413	146.2	1 508.8	110.8	206.4	971.6	5 595.7	17 064.3
2091	CANNED AND CURED SEAFOODS	215	255	118	16.0	147.0	13.8	25.0	113.4	441.0	1 440.6
2092	FRESH OR FROZEN PACKAGED FISH	906	990	406	34.3	260.8	29.6	49.7	188.9	705.5	2 664.9
2095	ROASTED COFFEE	133	167	89	10.9	164.8	7.2	15.0	103.2	988.0	5 616.4
2097	MANUFACTURED ICE	543	678	63	5.3	47.8	3.5	6.7	25.5	106.1	149.4
2098	MACARONI AND SPAGHETTI	189	205	68	8.2	96.0	5.7	12.3	56.5	327.0	662.0
2099	FOOD PREPARATIONS, NEC	1 872	2 117	669	71.5	792.6	50.9	97.7	484.1	3 028.1	6 531.0
21	TOBACCO PRODUCTS	155	228	123	60.6	750.7	50.4	92.6	570.7	4 334.1	9 050.6
2111	CIGARETTES	8	14	13	39.0	567.7	32.5	58.9	442.0	3 803.1	6 377.4
2121	CIGARS	94	101	34	7.7	54.9	7.0	12.7	44.0	125.6	242.7
2131	CHEWING AND SMOKING TOBACCO	28	35	19	3.2	32.1	2.5	4.4	22.0	188.9	354.3
2141	TOBACCO STEMMING AND REDRYING	38	78	57	10.7	96.1	8.4	16.6	62.6	216.5	2 076.2
22	TEXTILE MILL PRODUCTS	5 733	7 202	4 131	875.7	7 881.4	764.6	1 523.1	6 202.8	16 104.5	40 550.5
2211	WEAVING MILLS, COTTON	211	314	192	117.2	1 046.8	107.2	214.3	902.0	1 944.5	4 431.2
2221	WEAVING MILLS, MANMADE FIBER, SILK	267	449	351	151.0	1 428.7	134.6	275.4	1 168.7	2 790.9	6 325.9
2231	WEAVING AND FINISHING MILLS, WOOL	153	165	84	14.6	136.6	12.6	25.9	105.8	312.9	583.3
2241	NARROW FABRIC MILLS	291	335	182	20.8	171.6	18.1	35.7	130.9	350.8	682.9
225	KNITTING MILLS	2 318	2 617	1 511	235.9	1 911.0	205.9	389.4	1 469.9	3 863.0	9 470.0
2251	WOMEN'S HOSIERY, EXCEPT SOCKS	176	200	119	26.6	191.3	23.8	44.1	156.6	457.0	871.2
2252	HOSIERY, NEC	382	415	257	32.2	218.7	29.0	52.6	179.4	401.5	921.3
2253	KNIT OUTERWEAR MILLS	903	953	551	73.0	582.0	62.7	114.0	422.0	1 159.5	2 335.9
2254	KNIT UNDERWEAR MILLS	80	92	74	25.2	175.2	23.4	42.7	151.8	305.7	648.9
2257	CIRCULAR KNIT FABRIC MILLS	462	530	310	51.8	493.0	44.0	88.2	371.2	1 033.5	3 169.4
2258	WARP KNIT FABRIC MILLS	213	235	153	23.7	226.7	20.0	41.9	169.8	464.8	1 427.6
2259	KNITTING MILLS, NEC	191	192	47	3.4	24.1	3.1	6.0	19.0	40.9	95.7
226	TEXTILE FINISHING, EXCEPT WOOL	602	678	395	72.1	740.0	59.8	123.5	554.0	1 416.7	3 994.3
2261	FINISHING PLANTS, COTTON	194	210	94	20.8	211.4	17.3	35.7	162.2	350.7	759.5
2262	FINISH. PLTS, MANMADE FIBER, SILK	248	285	189	37.2	396.2	30.4	63.7	293.4	792.0	2 404.3
2269	FINISHING PLANTS, NEC	176	183	112	14.1	132.3	12.1	24.1	98.4	274.0	830.6

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972			
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
	ALL INDUSTRIES, TOTAL	47 459.0	8 499.5	38 959.5	188 436.4	174 865.0	(NA)	(NA)	19 028.7	174 205.5	353 994.0	756 534.3	24 077.7
20	FOOD AND KINDRED PRODUCTS	4 214.9	908.5	3 306.4	16 984.9	16 416.3	(NA)	(NA)	1 569.3	12 920.2	35 614.8	115 051.5	2 355.0
201	MEAT PRODUCTS	532.7	144.7	387.9	1 379.7	1 273.1	(NA)	(NA)	307.7	2 543.6	4 960.9	31 477.9	299.6
2011	MEATPACKING PLANTS	236.7	63.6	173.1	700.1	651.2	98	84	157.5	1 532.1	2 968.1	23 003.4	167.7
2013	SAUSAGES AND OTHER PREPARED MEATS	151.6	40.4	111.2	406.4	375.1	97	60	58.1	542.2	1 099.9	4 632.4	74.0
2016	POULTRY DRESSING PLANTS	126.1	36.6	89.5	206.8	188.3	99	92	77.6	391.8	724.4	3 254.1	45.5
2017	POULTRY AND EGG PROCESSING	18.3	4.2	14.1	66.3	58.6	99	73	14.6	77.5	168.5	588.1	12.4
202	DAIRY PRODUCTS	389.0	89.3	299.7	1 180.2	1 096.9	(NA)	(NA)	188.7	1 596.4	4 054.1	16 311.5	274.7
2021	CREAMERY BUTTER	8.3	1.9	6.4	24.2	25.4	80	61	4.0	31.0	82.3	808.3	7.8
2022	CHEESE, NATURAL AND PROCESSED	57.2	12.9	44.3	550.4	528.3	91	93	25.2	186.3	492.3	3 195.0	49.9
2023	CONDENSED AND EVAPORATED MILK	56.2	12.1	44.2	175.0	164.4	79	76	12.3	108.3	467.3	1 667.8	32.1
2024	ICE CREAM AND FROZEN DESSERTS	56.8	20.3	36.4	126.6	116.9	94	75	21.1	184.7	459.8	1 244.7	35.8
2026	FLUID MILK	210.5	42.0	168.5	304.0	261.8	88	94	126.1	1 086.1	2 552.4	9 395.7	149.2
203	PRESERVED FRUITS AND VEGETABLES	470.5	104.8	365.7	4 537.7	4 193.5	(NA)	(NA)	233.1	1 533.5	4 514.4	11 478.6	358.4
2032	CANNED SPECIALTIES	46.7	11.2	35.5	527.8	508.4	80	89	29.1	217.8	814.6	1 876.6	44.1
2033	CANNED FRUITS AND VEGETABLES	147.1	33.3	113.8	2 233.5	2 062.1	90	89	89.8	559.9	1 625.1	4 043.8	113.1
2034	DEHYD. FRUITS, VEGETABLES, SOUPS	52.5	15.6	36.9	281.9	267.0	94	88	12.4	84.3	235.7	607.3	18.9
2035	PICKLES, SAUCES, SALAD DRESSINGS	52.3	11.7	40.6	447.8	426.7	69	86	20.8	146.2	428.0	1 166.7	43.4
2037	FROZEN FRUITS AND VEGETABLES	87.7	14.1	73.6	724.4	640.3	89	89	42.8	261.2	694.6	1 848.8	57.8
2038	FROZEN SPECIALTIES	84.1	18.9	65.2	322.2	288.9	93	93	38.3	264.1	716.3	1 935.5	81.0
204	GRAIN MILL PRODUCTS	620.0	126.2	493.8	1 714.5	1 674.5	(NA)	(NA)	111.4	1 012.8	3 698.7	12 162.2	266.6
2041	FLOUR, OTHER GRAIN MILL PRODUCTS	52.4	15.2	37.2	263.2	297.8	98	71	16.1	152.8	509.8	2 380.0	30.0
2043	CEREAL BREAKFAST FOODS	79.8	10.8	69.0	152.1	150.3	74	93	12.9	140.9	688.4	1 125.5	24.9
2044	RICE MILLING	40.0	11.5	28.5	411.4	329.4	100	96	4.0	30.9	148.3	680.6	6.3
2045	BLENDED AND PREPARED FLOUR	17.6	5.8	11.8	80.6	72.3	94	75	7.9	74.9	306.8	704.6	13.7
2046	WET CORN MILLING	232.2	34.2	198.0	158.4	169.8	94	93	12.1	137.7	331.2	832.3	59.7
2047	DOG, CAT, AND OTHER PET FOOD	67.2	13.4	53.7	200.7	193.8	92	88	14.3	135.1	613.8	1 401.9	61.1
2048	PREPARED FEEDS, NEC	130.9	35.3	95.6	448.2	461.0	96	95	44.0	340.5	1 100.5	5 037.1	70.8
205	BAKERY PRODUCTS	365.4	78.4	287.1	407.1	382.5	(NA)	(NA)	234.6	2 029.0	4 537.0	7 895.5	207.3
2051	BREAD, CAKE, AND RELATED PRODUCTS	279.9	52.2	227.6	235.1	220.6	99	98	193.5	1 692.2	3 518.1	6 132.0	170.6
2052	COOKIES AND CRACKERS	85.6	26.1	59.4	172.0	161.9	94	94	41.1	336.9	1 018.9	1 763.5	36.7
206	SUGAR, CONFECTIONERY PRODUCTS	313.0	60.3	252.6	1 661.8	1 551.8	(NA)	(NA)	107.1	831.5	2 472.9	6 620.1	186.2
2061	RAW CANE SUGAR	43.4	4.0	39.3	107.9	97.3	100	99	7.1	60.7	151.7	406.5	28.8
2062	CANE SUGAR REFINING	53.4	10.8	42.7	345.1	275.9	99	100	10.9	119.5	383.9	1 742.7	23.6
2063	BEET SUGAR	43.5	4.6	38.9	467.1	469.2	99	99	11.5	92.3	310.5	880.2	34.9
2065	CONFECTIONERY PRODUCTS	115.5	25.9	89.5	450.2	442.6	95	94	60.7	422.2	1 115.7	2 472.5	53.4
2066	CHOCOLATE AND COCOA PRODUCTS	35.0	11.2	23.8	175.1	139.2	94	94	10.0	83.3	282.6	735.5	26.5
2067	CHEWING GUM	22.1	3.7	18.4	116.4	127.6	92	77	6.9	53.6	228.4	382.6	19.0
207	FATS AND OILS	208.1	37.3	170.9	1 484.2	1 972.7	(NA)	(NA)	40.3	366.4	1 290.5	6 908.8	121.4
2074	COTTONSEED OIL MILLS	13.0	2.9	10.0	195.4	249.6	88	89	5.5	34.2	88.2	458.7	9.9
2075	SOYBEAN OIL MILLS	72.3	14.1	58.2	804.9	1 205.9	87	98	9.1	82.4	350.0	3 357.2	41.9
2076	VEGETABLE OIL MILLS, NEC	7.4	2.1	5.3	89.3	83.1	86	58	1.2	11.6	44.8	261.0	3.1
2077	ANIMAL AND MARINE FATS AND OILS	53.3	8.9	44.3	70.2	54.0	94	68	11.6	106.0	296.7	764.7	31.0
2079	SHORTENING AND COOKING OILS	62.1	9.2	53.0	324.3	380.1	89	77	12.9	133.7	512.6	2 068.1	35.5
208	BEVERAGES	993.9	197.0	796.8	2 940.0	2 759.8	(NA)	(NA)	212.3	2 032.7	6 689.0	13 869.4	468.2
2082	MALT BEVERAGES	410.3	74.8	335.5	444.6	406.5	100	100	51.5	652.8	1 993.6	4 054.4	155.6
2083	MALT	39.6	19.5	20.1	134.2	183.0	100	100	1.7	20.0	55.0	226.3	7.9
2084	WINES, BRANDY, AND BRANDY SPIRITS	51.1	13.6	37.6	559.5	513.5	98	97	9.4	91.5	407.9	865.0	43.7
2085	DISTILLED LIQUOR, EXCEPT BRANDY	36.3	9.8	26.5	1 027.9	996.6	98	98	18.4	183.1	1 024.0	1 797.9	32.8
2086	BOTTLED AND CANNED SOFT DRINKS	423.6	72.5	351.0	551.7	467.2	98	97	121.1	984.4	2 336.7	5 453.8	207.1
2087	FLAVORING EXTRACTS, SIRUPS, NEC	33.1	6.9	26.2	222.1	193.1	92	86	10.1	100.9	871.9	1 472.0	21.1
209	MISC. FOODS, KINDRED PRODUCTS	322.4	70.5	251.9	1 679.9	1 511.5	(NA)	(NA)	134.2	974.2	3 397.3	8 335.5	172.5
2091	CANNED AND CURED SEAFOODS	28.1	8.9	19.2	311.1	256.6	81	96	16.0	99.0	231.4	809.8	15.5
2092	FRESH OR FROZEN PACKAGED FISH	56.8	19.0	37.8	376.7	313.3	97	97	25.0	129.6	287.5	1 084.4	17.8
2095	ROASTED COFFEE	41.9	1.4	40.4	405.3	383.9	96	98	12.9	131.5	825.8	2 328.7	31.5
2097	MANUFACTURED ICE	16.9	5.2	11.6	4.4	3.3	99	99	6.8	42.6	91.7	116.4	8.9
2098	MACARONI AND SPAGHETTI	12.6	3.3	9.2	48.4	45.1	99	83	7.3	59.4	155.7	348.3	7.1
2099	FOOD PREPARATIONS, NEC	166.2	32.6	133.6	534.1	509.4	89	83	66.2	512.1	1 805.2	3 647.9	91.8
21	TOBACCO PRODUCTS	181.5	56.7	124.7	3 711.9	3 615.2	(NA)	(NA)	66.3	502.1	2 637.2	5 920.2	133.2
2111	CIGARETTES	118.0	41.2	76.8	2 652.2	2 564.7	97	99	38.1	344.8	2 188.4	3 744.6	101.5
2121	CIGARS	3.3	.3	3.0	57.8	54.9	(D)	92	13.5	68.2	191.9	338.7	5.4
2131	CHEWING AND SMOKING TOBACCO	7.3	1.9	5.4	99.8	94.7	97	75	3.3	23.0	103.2	180.2	12.1
2141	TOBACCO STEMMING AND REDRYING	52.8	13.3	39.6	902.2	900.9	(D)	94	11.4	66.0	153.6	1 656.8	14.1
22	TEXTILE MILL PRODUCTS	1 223.5	198.9	1 024.5	5 509.9	5 103.5	(NA)	(NA)	952.6	6 051.0	11 715.8	28 063.9	1 127.4
2211	WEAVING MILLS, COTTON	187.2	32.8	154.4	657.8	553.9	84	66	121.3	745.2	1 256.3	2 660.6	72.7
2221	WEAV'G MILLS, MANMADE FIBER, SILK	260.2	23.3	236.9	871.0	834.8	86	74	149.7	979.4	1 831.6	3 856.6	136.2
2231	WEAVING AND FINISHING MILLS, WOOL	14.9	4.0	11.0	111.0	96.2	83	80	19.4	132.1	239.4	450.1	11.6
2241	NARROW FABRIC MILLS	16.2	4.0	12.1	109.3	106.1	96	97	27.1	162.3	289.0	566.2	11.2
225	KNITTING MILLS	245.2	48.8	196.4	1 315.4	1 218.8	(NA)	(NA)	276.5	1 647.0	3 180.7	7 703.3	401.6
2251	WOMEN'S HOSIERY, EXCEPT SOCKS	16.6	3.9	12.6	122.9	119.8	91	95	49.5	247.4	438.8	984.7	15.9
2252	HOSIERY, NEC	14.8	3.6	11.3	127.3	118.8	96	96	32.6	159.7	295.2	600.6	12.5
2253	KNIT OUTERWEAR MILLS	49.9	5.3	44.6	393.4	342.5	90	53	74.4	430.4	799.5	1 703.8	45.9
2254	KNIT UNDERWEAR MILLS	14.5	4.2	10.2	131.3	116.8	80	86	26.0	134.6	251.5	544.6	7.0
2257	CIRCULAR KNIT FABRIC MILLS	91.6	11.5	80.0	316.2	307.2	90	88	68.1	492.6	1 036.0	2 808.8	270.1
2258	WARP KNIT FABRIC MILLS	56.3	20.1	36.2	209.0	198.8	93	83	22.0	159.2	317.8	987.7	48.2
2259	KNITTING MILLS, NEC	1.5	.2	1.4	15.2	14.8	97	81	3.9	23.1	41.8	73.1	2.0
226	TEXTILE FINISHING, EXCEPT WOOL	125.2	20.6	104.6	434.6	396.7	(NA)	(NA)	79.5	564.0	1 113.9	2 625.8	115.5
2261	FINISHING PLANTS, COTTON	24.8	3.1	21.6	80.1	68.2	83	39	25.7	177.2	322.0	623.3	31.5
2262	FINISH. PLTS, MANMADE FIBER, SILK	75.9	12.2	63.6	266.5	258.4	80	57	35.2	263.2	521.5	1 365.2	48.8
2269	FINISHING PLANTS, NEC	24.6	5.3	19.4	88.0	70.1	95	43	18.5	123.5	270.4	637.3	35.2

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
227	FLOOR COVERING MILLS	533	592	285	55.8	556.7	44.3	91.4	379.7	1 530.1	4 774.5
2271	WOVEN CARPETS AND RUGS	71	71	16	2.8	24.8	2.5	4.7	20.0	47.1	138.7
2272	TUFTED CARPETS AND RUGS	397	449	251	50.2	506.5	39.4	82.2	341.1	1 438.2	4 520.7
2279	CARPETS AND RUGS, NEC	72	72	18	2.8	25.3	2.4	4.5	18.6	44.8	115.2
228	YARN AND THREAD MILLS	529	798	608	140.5	1 184.4	127.3	258.2	994.3	2 254.5	6 114.4
2281	YARN MILLS, EXCEPT WOOL	274	456	370	93.0	782.7	85.6	175.2	675.5	1 480.3	3 864.9
2282	THROWING AND WINDING MILLS	170	196	148	30.5	262.3	27.1	54.5	210.4	490.4	1 510.1
2283	WOOL YARN MILLS	71	76	43	4.1	33.1	3.7	7.3	27.3	81.8	194.9
2284	THREAD MILLS	58	70	47	12.8	106.3	10.9	21.1	81.1	201.9	544.4
229	MISCELLANEOUS TEXTILE GOODS	1 150	1 254	523	67.9	705.6	54.8	109.2	497.5	1 641.1	4 173.9
2291	FELT GOODS, EXC. WOVEN FELT, HATS	37	46	27	4.3	50.7	3.3	6.7	33.1	103.0	197.7
2292	LACE GOODS	68	71	24	2.2	17.9	1.9	3.6	14.0	27.7	45.9
2293	PADDINGS AND UPHOLSTERY FILLING	113	120	56	5.2	52.9	4.1	8.4	36.4	124.5	251.8
2294	PROCESSED TEXTILE WASTE	95	99	39	3.7	31.2	3.1	6.3	23.1	61.7	178.4
2295	COATED FABRICS, NOT RUBBERIZED	175	191	109	13.6	182.3	9.9	20.9	117.1	413.1	1 059.0
2296	TIRE CORD AND FABRIC	8	20	20	9.6	94.7	8.5	16.2	78.1	242.1	1 013.2
2297	NONWOVEN FABRICS	81	100	74	13.0	139.8	10.4	21.1	100.2	386.0	864.4
2298	CORDAGE AND TWINE	151	171	84	9.5	79.5	7.9	14.2	53.7	173.8	332.2
2299	TEXTILE GOODS, NEC	432	436	90	6.7	56.6	5.7	11.8	41.8	109.2	231.1
23	APPAREL, OTHER TEXTILE PRODS	23 754	26 505	11 932	1 334.3	9 658.6	1 156.6	2 037.6	7 252.6	19 671.3	40 245.1
2311	MEN'S AND BOYS' SUITS AND COATS	619	737	467	98.7	822.2	86.2	152.9	645.4	1 574.4	2 767.5
232	MEN'S AND BOYS' FURNISHINGS	2 121	3 013	2 129	364.5	2 340.1	323.4	575.3	1 863.5	4 935.2	10 003.2
2321	MEN'S, BOYS' SHIRTS, NIGHTWEAR	669	928	679	114.7	711.3	103.0	184.1	569.9	1 445.7	2 934.6
2322	MEN'S AND BOYS' UNDERWEAR	56	76	59	15.1	92.2	13.7	23.8	79.0	218.2	419.8
2323	MEN'S AND BOYS' NECKWEAR	198	207	81	6.3	57.5	5.1	8.7	33.4	117.5	223.8
2327	MEN'S AND BOYS' SEPARATE TROUSERS	404	514	335	70.9	474.0	61.9	107.6	372.0	845.6	1 718.0
2328	MEN'S AND BOYS' WORK CLOTHING	347	656	575	113.7	719.4	101.6	183.7	589.9	1 765.4	3 641.9
2329	MEN'S AND BOYS' CLOTHING, NEC	553	632	400	43.8	285.8	38.1	67.4	219.3	542.8	1 065.1
233	WOMEN'S AND MISSES' OUTERWEAR	11 121	11 834	5 556	447.5	3 152.8	387.3	660.9	2 304.2	6 429.8	12 720.3
2331	WOMEN'S, MISSES' BLOUSES, WAISTS	1 292	1 415	952	83.3	569.0	73.8	125.0	424.3	1 192.5	2 333.6
2335	WOMEN'S AND MISSES' DRESSES	6 753	6 953	2 473	175.3	1 197.1	153.0	261.0	882.5	2 233.7	4 188.6
2337	WOMEN'S, MISSES' SUITS AND COATS	1 558	1 672	1 067	84.7	654.0	72.7	123.3	468.5	1 429.6	2 912.9
2339	WOMEN'S, MISSES' OUTERWEAR, NEC	1 625	1 794	1 064	104.1	732.7	87.9	151.5	528.9	1 574.0	3 285.1
234	WOMEN'S, CHILDREN'S UNDERGARMS	693	878	595	91.8	613.2	78.6	139.6	448.9	1 249.7	2 430.8
2341	WOMEN'S AND CHILDREN'S UNDERWEAR	548	698	479	72.9	472.1	63.4	112.6	359.8	915.3	1 780.8
2342	BRASSIERES AND ALLIED GARMENTS	150	180	116	18.9	141.1	15.2	27.0	89.1	334.4	650.0
235	HATS, CAPS, AND MILLINERY	381	409	169	15.1	105.2	13.3	23.8	79.1	185.5	359.9
2351	MILLINERY	151	151	47	2.7	20.2	2.2	3.7	13.7	32.8	75.1
2352	HATS AND CAPS, EXCEPT MILLINERY	230	258	122	12.4	85.1	11.1	20.1	65.3	152.7	284.8
236	CHILDREN'S OUTERWEAR	844	1 002	686	71.2	459.1	61.2	107.6	348.9	879.2	1 717.3
2361	CHILDREN'S DRESSES AND BLOUSES	455	519	374	35.2	228.4	30.4	52.5	169.7	444.6	824.7
2363	CHILDREN'S COATS AND SUITS	108	120	70	6.7	45.8	5.7	9.7	35.1	90.2	173.8
2369	CHILDREN'S OUTERWEAR, NEC	307	363	242	29.3	184.9	25.1	45.4	144.1	344.4	718.8
2371	FUR GOODS	620	620	48	4.0	51.5	3.2	5.1	36.2	112.8	383.4
238	MISC. APPAREL AND ACCESSORIES	1 207	1 284	593	56.3	407.5	47.9	84.8	288.2	845.3	1 649.5
2381	FABRIC DRESS AND WORK GLOVES	100	132	92	10.9	69.0	9.9	18.0	56.3	160.9	312.4
2384	ROBES AND DRESSING GOWNS	137	151	98	9.5	64.3	8.2	14.7	47.8	139.5	288.3
2385	WATERPROOF OUTERGARMENTS	157	167	105	12.0	89.4	10.1	17.9	61.6	194.4	348.8
2386	LEATHER AND SHEEP LINED CLOTHING	236	239	80	6.7	54.7	5.9	10.4	41.1	94.8	214.1
2387	APPAREL BELTS	281	284	119	9.4	76.1	7.3	12.6	44.6	150.3	286.9
2389	APPAREL AND ACCESSORIES, NEC	304	311	99	7.8	54.0	6.5	11.2	36.9	105.4	199.0
239	MISC. FABRICATED TEXTILE PRODS	6 444	6 728	1 689	185.2	1 706.9	155.5	287.6	1 238.3	3 459.4	8 213.2
2391	CURTAINS AND DRAPERIES	1 650	1 712	324	31.7	224.7	27.2	47.9	163.6	407.3	1 013.1
2392	HOUSEFURNISHINGS, NEC	980	1 051	403	47.5	366.4	39.8	75.4	260.0	782.9	2 294.0
2393	TEXTILE BAGS	211	228	90	8.2	66.7	6.8	12.9	46.8	122.2	321.8
2394	CANVAS AND RELATED PRODUCTS	987	1 003	148	13.9	121.6	11.0	19.3	75.1	237.4	486.8
2395	PLEATING AND STITCHING	770	778	206	16.1	130.9	13.2	22.9	89.0	281.8	620.2
2396	AUTOMOTIVE AND APPAREL TRIMMINGS	686	715	188	30.9	476.4	26.3	51.7	374.0	1 000.2	2 166.3
2397	SCHIFFLI MACHINE EMBROIDERIES	357	363	58	6.0	56.3	5.3	10.4	42.5	96.7	158.0
2399	FABRICATED TEXTILE PRODUCTS, NEC	845	878	272	31.1	263.8	26.0	47.1	187.4	531.0	1 152.9
24	LUMBER AND WOOD PRODUCTS	34 962	37 302	7 056	692.4	7 424.7	594.8	1 147.6	5 795.0	16 222.9	39 919.4
2411	LOGGING CAMPS, LOG CONTRACTORS	15 344	15 469	708	83.3	1 009.0	74.5	127.7	840.1	2 418.7	6 230.1
242	SAWMILLS AND PLANING MILLS	8 263	9 000	2 273	211.3	2 228.3	187.8	375.8	1 849.0	4 975.0	11 969.3
2421	SAWMILLS, PLANING MILLS, GENERAL	6 966	7 544	1 827	175.2	1 943.0	155.8	315.6	1 622.7	4 452.8	10 866.7
2426	HARDWOOD DIMENSION AND FLOORING	845	890	345	29.1	225.0	25.8	49.8	177.5	413.1	850.0
2429	SPECIAL PRODUCT SAWMILLS, NEC	522	566	101	7.0	60.3	6.1	10.4	48.8	109.1	252.6
243	MILLWORK, PLYWOOD, STRUC. MEMBS	5 710	6 149	1 878	197.1	2 216.4	167.4	328.8	1 714.9	4 700.4	11 381.9
2431	MILLWORK	2 209	2 333	692	68.6	742.2	56.6	108.4	542.0	1 497.9	3 928.1
2434	WOOD KITCHEN CABINETS	2 451	2 583	510	46.2	481.1	38.7	72.3	352.3	868.6	1 590.8
2435	HARDWOOD VENEER AND PLYWOOD	274	321	227	22.3	211.5	19.1	37.9	162.0	420.2	1 250.4
2436	SOFTWOOD VENEER AND PLYWOOD	129	256	224	46.2	634.6	41.9	89.4	556.9	1 583.7	3 804.8
2439	STRUCTURAL WOOD MEMBERS, NEC	620	656	225	13.8	147.0	11.0	20.8	101.6	330.0	807.7
244	WOOD CONTAINERS	1 882	1 949	540	37.8	299.6	33.4	61.3	233.7	539.7	1 217.1
2441	NAILED WOOD BOXES AND SHOOK	391	396	110	8.6	68.6	7.5	13.7	53.6	116.2	263.3
2448	WOOD PALLETS AND SKIDS	1 267	1 290	348	20.3	163.8	17.9	32.1	126.3	303.1	698.0
2449	WOOD CONTAINERS, NEC	238	263	82	8.9	67.2	8.0	15.5	53.7	120.4	255.8
245	WOOD BUILDINGS AND MOBILE HOMES	803	1 165	752	79.5	858.2	63.0	121.1	576.2	1 789.1	5 147.9

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
227	FLOOR COVERING MILLS	82.5	12.1	70.4	753.5	694.2	(NA)	(NA)	59.9	415.3	1 076.0	3 153.0	74.7
2271	WOVEN CARPETS AND RUGS	1.1	.4	.8	26.9	23.9	(D)	81	6.5	44.5	93.2	212.3	3.2
2272	TUFTED CARPETS AND RUGS	78.7	11.1	67.6	696.8	644.1	96	99	50.1	348.0	926.8	2 775.2	67.1
2279	CARPETS AND RUGS, NEC	2.6	.6	2.0	29.9	26.2	(D)	74	3.3	23.6	58.2	165.5	4.4
228	YARN AND THREAD MILLS	180.0	23.9	156.1	616.0	592.1	(NA)	(NA)	147.5	866.1	1 579.5	4 242.8	221.7
2281	YARN MILLS, EXCEPT WOOL	114.4	13.5	101.0	363.6	362.2	92	72	89.6	516.3	867.2	2 248.3	96.3
2282	THROWING AND WINDING MILLS	51.1	8.3	42.9	132.3	122.1	92	55	38.0	230.9	477.8	1 427.6	113.7
2283	WOOL YARN MILLS	2.7	.2	2.5	17.4	18.7	90	71	8.3	49.7	92.7	221.4	4.2
2284	THREAD MILLS	11.8	2.0	9.8	102.7	89.2	96	91	11.7	69.2	141.8	345.4	7.5
229	MISCELLANEOUS TEXTILE GOODS	112.0	29.4	82.6	641.3	610.5	(NA)	(NA)	71.9	539.7	1 149.4	2 813.1	82.3
2291	FELT GOODS, EXC. WOVEN FELT, HATS	5.7	1.5	4.3	36.3	33.0	82	82	5.0	38.3	80.5	146.5	2.8
2292	LACE GOODS	1.0	.2	.8	12.6	11.7	98	98	2.9	17.3	29.4	47.1	1.7
2293	PADDINGS AND UPHOLSTERY FILLING	5.8	1.9	4.0	19.6	19.1	92	84	4.4	34.2	64.5	134.6	2.9
2294	PROCESSED TEXTILE WASTE	5.8	1.9	3.9	27.5	26.2	98	95	3.6	22.2	50.9	133.8	3.2
2295	COATED FABRICS, NOT RUBBERIZED	26.0	7.8	18.2	190.0	188.4	87	89	18.0	167.8	382.4	865.8	29.6
2296	TIRE CORD AND FABRIC	7.0	.5	6.6	126.7	130.0	90	99	10.0	70.0	145.8	685.1	8.8
2297	NONWOVEN FABRICS	41.1	10.5	30.5	121.5	104.0	86	66	10.8	80.6	191.8	397.4	15.0
2298	CORDAGE AND TWINE	6.5	1.7	4.9	79.4	73.4	90	95	9.0	55.4	96.3	191.0	4.9
2299	TEXTILE GOODS, NEC	13.0	3.5	9.4	27.8	24.7	96	68	8.3	53.9	107.7	211.8	13.4
23	APPAREL, OTHER TEXTILE PRODS	456.7	114.0	342.6	5 535.8	5 125.3	(NA)	(NA)	1 368.3	7 212.0	13 487.5	27 809.2	363.5
2311	MEN'S AND BOYS' SUITS AND COATS	25.8	5.8	20.0	470.5	416.8	93	92	124.8	770.3	1 342.2	2 396.9	22.5
232	MEN'S AND BOYS' FURNISHINGS	118.3	32.2	86.1	1 547.6	1 409.0	(NA)	(NA)	363.4	1 692.3	3 241.6	6 904.6	90.2
2321	MEN'S, BOYS' SHIRTS, NIGHTWEAR	25.9	6.2	19.7	501.4	442.6	92	92	113.4	514.9	1 003.8	2 104.3	24.1
2322	MEN'S AND BOYS' UNDERWEAR	2.6	.5	2.0	55.1	50.8	87	91	16.0	68.6	130.9	239.3	5.7
2323	MEN'S AND BOYS' NECKWEAR	2.6	.8	1.8	29.6	26.3	100	97	11.1	70.0	143.4	294.9	4.0
2327	MEN'S AND BOYS' SEPARATE TROUSERS	22.8	5.0	17.9	281.9	279.8	84	88	91.3	439.3	784.9	1 745.0	22.2
2328	MEN'S AND BOYS' WORK CLOTHING	44.1	13.8	30.3	477.7	427.4	89	94	89.6	389.0	784.8	1 738.0	24.1
2329	MEN'S AND BOYS' CLOTHING, NEC	20.2	5.9	14.3	201.9	182.2	83	80	41.9	210.4	393.8	783.2	10.1
233	WOMEN'S AND MISSES' OUTERWEAR	133.6	36.9	96.7	1 338.2	1 259.4	(NA)	(NA)	432.6	2 269.6	4 102.0	8 278.2	98.3
2331	WOMEN'S, MISSES' BLOUSES, WAISTS	24.0	4.9	19.2	222.5	197.3	85	75	63.0	328.1	592.4	1 254.9	30.0
2335	WOMEN'S AND MISSES' DRESSES	45.2	10.8	34.5	386.1	363.0	95	95	211.6	1 076.9	1 888.7	3 580.0	32.6
2337	WOMEN'S, MISSES' SUITS AND COATS	22.0	7.5	14.5	297.0	291.1	80	83	75.9	446.7	839.8	1 805.3	16.4
2339	WOMEN'S, MISSES' OUTERWEAR, NEC	42.4	13.8	28.5	432.6	408.0	80	81	82.1	417.9	781.0	1 638.0	19.3
234	WOMEN'S, CHILDREN'S UNDERGARMS	22.9	6.3	16.7	397.7	373.1	(NA)	(NA)	105.4	524.8	1 049.0	1 978.9	24.0
2341	WOMEN'S AND CHILDREN'S UNDERWEAR	18.7	5.5	13.2	275.9	256.5	95	87	77.5	372.0	709.0	1 331.9	19.3
2342	BRASSIERES AND ALLIED GARMENTS	4.2	.8	3.5	121.9	116.7	92	99	28.0	152.8	340.0	647.0	4.6
235	HATS, CAPS, AND MILLINERY	4.1	1.2	2.9	57.5	53.4	(NA)	(NA)	14.5	72.6	133.4	229.1	2.2
2351	MILLINERY	.2	(Z)	.2	5.8	5.7	99	(D)	3.2	17.0	33.2	58.1	.3
2352	HATS AND CAPS, EXCEPT MILLINERY	3.9	1.2	2.7	51.7	47.6	96	94	11.3	55.6	100.2	171.0	1.9
236	CHILDREN'S OUTERWEAR	14.4	2.5	12.0	245.7	239.5	(NA)	(NA)	74.8	367.5	709.1	1 421.9	19.8
2361	CHILDREN'S DRESSES AND BLOUSES	6.4	1.2	5.2	106.5	94.9	89	87	35.4	174.4	335.8	655.2	12.9
2363	CHILDREN'S COATS AND SUITS	1.3	.2	1.1	20.7	17.1	87	78	9.2	48.5	90.4	188.5	.8
2369	CHILDREN'S OUTERWEAR, NEC	6.7	1.1	5.6	118.5	127.5	84	77	30.1	144.6	282.9	578.2	6.1
2371	FUR GOODS	.5	.2	.3	46.5	41.3	100	99	4.7	41.2	86.2	220.0	1.1
238	MISC. APPAREL AND ACCESSORIES	20.7	5.2	15.5	274.7	242.9	(NA)	(NA)	61.9	334.6	635.9	1 280.0	14.9
2381	FABRIC DRESS AND WORK GLOVES	3.5	.4	3.1	42.1	39.1	91	84	11.9	56.3	100.3	198.8	1.9
2384	ROBES AND DRESSING GOWNS	3.3	.9	2.5	44.1	38.0	89	93	10.0	50.0	92.5	202.8	2.0
2385	WATERPROOF OUTERGARMENTS	5.6	2.1	3.5	59.6	52.6	91	90	15.4	86.4	168.8	332.1	2.4
2386	LEATHER AND SHEEP LINED CLOTHING	1.6	.6	.9	32.3	25.8	97	91	7.0	40.8	82.1	172.1	2.5
2387	APPAREL BELTS	2.5	.3	2.2	50.9	43.9	88	96	10.3	65.9	132.5	257.5	3.2
2389	APPAREL AND ACCESSORIES, NEC	4.2	1.0	3.2	45.7	43.4	90	95	7.3	35.3	59.7	116.8	2.8
239	MISC. FABRICATED TEXTILE PRODS	116.4	23.7	92.7	1 157.4	1 090.0	(NA)	(NA)	186.2	1 139.1	2 188.2	5 099.5	90.4
2391	CURTAINS AND DRAPERIES	7.2	1.6	5.6	151.2	140.5	95	93	33.9	167.1	302.3	754.9	9.5
2392	HOUSEFURNISHINGS, NEC	26.9	6.3	20.6	393.0	345.7	89	61	50.3	281.9	585.2	1 526.9	29.9
2393	TEXTILE BAGS	5.8	1.4	4.4	59.4	57.6	82	84	7.9	44.0	74.5	255.1	5.5
2394	CANVAS AND RELATED PRODUCTS	8.4	2.2	6.2	101.0	91.5	93	92	12.9	75.9	130.3	276.4	4.0
2395	PLEATING AND STITCHING	9.3	1.8	7.5	82.9	75.5	96	98	16.7	89.2	174.7	308.2	3.2
2396	AUTOMOTIVE AND APPAREL TRIMMINGS	36.1	6.4	29.6	194.3	214.7	98	96	27.6	266.6	530.8	1 133.0	10.4
2397	SCHIFFLI MACHINE EMBROIDERIES	3.3	.4	2.9	10.1	8.9	97	98	5.5	38.9	75.0	120.5	2.2
2399	FABRICATED TEXTILE PRODUCTS, NEC	19.4	3.7	15.7	165.4	155.6	94	89	31.4	175.3	315.5	724.7	25.9
24	LUMBER AND WOOD PRODUCTS	1 562.6	290.9	1 271.6	4 663.8	4 258.1	(NA)	(NA)	691.0	4 985.6	10 310.2	23 829.7	931.2
2411	LOGGING CAMPS, LOG CONTRACTORS	386.5	56.3	330.2	555.8	520.6	97	94	80.0	523.9	1 163.4	2 529.5	157.0
242	SAWMILLS AND PLANING MILLS	584.2	100.0	484.2	1 598.8	1 493.2	(NA)	(NA)	204.4	1 488.4	3 259.3	7 244.3	329.3
2421	SAWMILLS, PLANING MILLS, GENERAL	535.8	86.8	449.0	1 420.6	1 333.7	92	93	166.6	1 272.2	2 906.0	6 470.8	306.8
2426	HARDWOOD DIMENSION AND FLOORING	35.3	9.3	26.0	147.4	125.3	91	92	31.5	173.9	272.1	579.0	16.8
2429	SPECIAL PRODUCT SAWMILLS, NEC	13.1	3.9	9.2	30.8	34.2	98	92	6.4	40.0	80.4	180.8	5.7
243	MILLWORK, PLYWOOD, STRUC. MEMBS.	272.7	58.5	214.2	1 344.9	1 208.3	(NA)	(NA)	190.7	1 474.3	2 908.4	6 703.3	194.8
2431	MILLWORK	81.0	27.6	53.3	605.0	545.3	94	94	70.5	524.5	962.7	2 426.8	57.2
2434	WOOD KITCHEN CABINETS	36.7	11.3	25.5	212.3	187.2	96	96	38.8	286.6	486.7	897.2	28.3
2435	HARDWOOD VENEER AND PLYWOOD	29.6	3.7	25.9	197.7	176.1	91	93	25.1	165.2	340.8	911.8	32.1
2436	SOFTWOOD VENEER AND PLYWOOD	105.6	10.6	95.1	242.6	229.2	88	91	43.7	403.6	935.4	2 011.5	65.4
2439	STRUCTURAL WOOD MEMBERS, NEC	19.7	5.4	14.4	87.3	70.5	94	93	12.6	94.4	182.8	456.0	11.8
244	WOOD CONTAINERS	29.6	6.3	23.3	139.9	134.4	(NA)	(NA)	36.8	203.8	358.8	773.5	21.2
2441	NAILED WOOD BOXES AND SHOOK	5.4	1.3	4.1	31.2	30.2	89	83	10.7	61.1	103.8	237.9	6.4
2448	WOOD PALLETS AND SKIDS	21.3	4.4	17.0	58.1	52.4	90	91	14.3	77.7	140.9	295.4	11.2
2449	WOOD CONTAINERS, NEC	2.9	.6	2.3	50.5	51.8	93	97	11.9	65.0	114.1	240.2	3.6
245	WOOD BUILDINGS AND MOBILE HOMES	110.0	43.0	66.9	422.4	350.0	(NA)	(NA)	97.1	745.4	1 490.9	4 289.0	93.0

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
2451	MOBILE HOMES	308	597	465	50.5	527.6	41.8	80.5	371.8	1 030.5	3 199.3
2452	PREFABRICATED WOOD BUILDINGS	512	568	287	29.0	330.6	21.2	40.6	204.4	758.6	1 948.6
249	MISCELLANEOUS WOOD PRODUCTS	3 292	3 570	905	83.4	813.3	68.8	132.8	581.2	1 799.9	3 973.1
2491	WOOD PRESERVING	366	457	192	12.6	126.1	9.9	19.7	82.9	327.1	962.6
2492	PARTICLEBOARD	36	63	51	6.2	79.1	5.0	10.9	60.3	207.2	452.9
2499	WOOD PRODUCTS, NEC	2 909	3 050	662	64.6	608.1	53.9	102.3	438.0	1 265.5	2 557.6
25	FURNITURE AND FIXTURES	9 421	10 235	3 588	463.8	4 448.3	383.6	736.4	3 191.8	8 921.7	16 978.0
251	HOUSEHOLD FURNITURE	5 585	6 161	2 224	309.7	2 669.2	265.2	505.3	1 998.7	5 212.7	10 392.1
2511	WOOD HOUSEHOLD FURNITURE	2 795	2 983	816	141.0	1 138.8	124.8	245.0	898.7	2 239.9	4 148.8
2512	UPHOLSTERED HOUSEHOLD FURNITURE	1 357	1 473	730	89.1	779.2	75.7	137.6	583.9	1 437.3	2 931.0
2514	METAL HOUSEHOLD FURNITURE	405	448	213	33.2	302.7	27.4	51.6	208.6	637.4	1 307.1
2515	MATTRESSES AND BEDSPRINGS	832	962	355	27.0	279.8	20.6	39.3	175.3	616.6	1 398.5
2517	WOOD TV AND RADIO CABINETS	91	94	51	10.7	89.0	9.3	17.6	70.5	150.4	304.8
2519	HOUSEHOLD FURNITURE, NEC	198	201	59	8.7	79.7	7.5	14.3	61.7	131.0	301.9
252	OFFICE FURNITURE	483	523	233	45.0	542.6	35.1	69.1	375.9	1 236.1	2 009.4
2521	WOOD OFFICE FURNITURE	319	331	119	16.0	165.0	12.8	25.5	110.2	381.3	612.0
2522	METAL OFFICE FURNITURE	167	192	114	29.0	377.6	22.3	43.6	265.7	854.8	1 397.4
2531	PUBLIC BLDG., RELATED FURNITURE	401	420	185	20.0	214.3	15.0	29.2	132.9	414.9	787.4
254	PARTITIONS AND FIXTURES	2 067	2 134	666	57.4	675.1	44.3	85.9	454.2	1 311.0	2 408.8
2541	WOOD PARTITIONS AND FIXTURES	1 572	1 598	394	29.4	352.9	23.0	45.3	241.0	621.4	1 105.8
2542	METAL PARTITIONS AND FIXTURES	508	536	272	28.0	322.2	21.3	40.5	213.2	689.7	1 303.0
259	MISC. FURNITURE AND FIXTURES	964	997	280	31.7	347.0	24.0	46.9	230.1	746.9	1 380.3
2591	DRAPERY HARDWARE, BLINDS, SHADES	435	456	85	13.6	145.6	10.3	20.0	99.1	345.0	675.1
2599	FURNITURE AND FIXTURES, NEC	528	541	195	18.1	201.4	13.7	27.0	131.0	401.9	705.2
26	PAPER AND ALLIED PRODUCTS	4 394	6 545	3 999	628.7	8 942.9	486.3	985.9	6 323.1	22 170.9	52 085.7
2611	PULPMILLS	26	45	42	16.2	293.2	12.5	25.4	220.7	906.1	2 091.1
2621	PAPERMILLS, EXCEPT BUILDING PAPER	171	339	287	127.0	2 167.0	100.4	210.4	1 631.7	5 406.6	12 613.3
2631	PAPERBOARD MILLS	120	249	232	67.6	1 175.8	53.0	112.5	888.0	3 080.7	7 124.3
264	MISC. CONVERTED PAPER PRODUCTS	2 323	2 994	1 435	206.7	2 608.1	158.0	316.1	1 771.3	7 263.0	16 433.2
2641	PAPER COATING AND GLAZING	454	529	239	39.7	551.2	27.2	56.8	335.1	1 507.0	3 392.0
2642	ENVELOPES	182	265	184	22.6	270.0	17.6	34.6	182.4	503.4	990.5
2643	BAGS, EXCEPT TEXTILE BAGS	462	596	355	48.7	584.1	38.8	77.6	411.7	1 349.6	3 482.3
2645	DIE-CUT PAPER AND BOARD	318	371	141	14.3	174.6	11.3	22.7	119.6	429.5	1 057.7
2646	PRESSED AND MOLDED PULP GOODS	25	38	27	4.9	58.8	4.0	8.4	48.7	153.7	240.3
2647	SANITARY PAPER PRODUCTS	72	120	89	34.5	509.1	27.4	54.5	381.8	2 194.5	4 921.2
2648	STATIONERY PRODUCTS	219	242	109	12.6	135.2	9.8	18.5	91.0	291.0	651.7
2649	CONVERTED PAPER PRODUCTS, NEC	783	833	291	29.4	325.1	21.9	43.3	201.1	834.3	1 697.5
265	PAPERBOARD CONTAINERS AND BOXES	1 794	2 860	1 950	204.1	2 601.8	156.5	309.0	1 733.4	5 296.3	13 350.1
2651	FOLDING PAPERBOARD BOXES	452	574	374	44.7	577.8	35.8	71.8	409.8	1 136.8	2 579.0
2652	SETUP PAPERBOARD BOXES	280	312	209	13.1	115.3	11.2	20.6	80.8	211.6	360.5
2653	CORRUGATED AND SOLID FIBER BOXES	863	1 472	1 034	101.5	1 374.8	73.5	146.5	867.0	2 704.1	7 351.1
2654	SANITARY FOOD CONTAINERS	122	193	138	28.7	336.7	22.7	43.5	228.2	836.8	2 048.4
2655	FIBER CANS, DRUMS, SIMILAR PRODS	166	309	195	16.1	197.3	13.4	26.7	147.6	406.9	1 011.1
2661	BUILDING PAPER AND BOARD MILLS	19	58	53	7.0	96.9	5.9	12.5	77.9	218.2	473.7
27	PRINTING AND PUBLISHING	46 604	49 767	9 132	1 092.2	14 024.5	625.8	1 152.8	7 322.1	31 979.5	49 716.2
2711	NEWSPAPERS	7 821	8 867	2 147	349.9	4 306.0	147.2	252.5	1 805.3	9 519.1	13 055.9
2721	PERIODICALS	2 860	2 994	525	69.9	1 019.8	10.6	20.5	115.7	3 762.7	6 056.5
273	BOOKS	2 536	2 694	716	106.4	1 378.5	50.9	97.5	544.2	4 291.1	6 485.7
2731	BOOK PUBLISHING	1 650	1 744	346	59.5	830.2	13.3	24.9	140.1	3 261.9	4 793.9
2732	BOOK PRINTING	897	950	370	46.9	548.2	37.6	72.6	404.1	1 029.2	1 691.8
2741	MISCELLANEOUS PUBLISHING	2 266	2 352	335	42.1	503.0	15.4	27.1	150.3	1 290.7	1 850.9
275	COMMERCIAL PRINTING	26 109	26 815	3 637	356.0	4 701.8	275.1	511.3	3 275.3	8 551.2	15 015.8
2751	COMMERCIAL PRINTING, LETTERPRESS	14 375	14 521	1 059	110.9	1 307.3	88.0	159.6	913.6	2 440.6	4 284.3
2752	COMMERCIAL PRINTING, LITHOGRAPHIC	10 964	11 320	2 362	216.3	2 984.1	163.7	307.4	2 045.7	5 338.4	9 359.7
2753	ENGRAVING AND PLATE PRINTING	511	550	118	9.8	118.9	7.6	13.5	84.5	230.8	314.9
2754	COMMERCIAL PRINTING, GRAVURE	401	424	98	19.0	291.6	15.8	30.8	231.5	541.4	1 056.8
2761	MANIFOLD BUSINESS FORMS	601	795	477	45.3	575.0	33.3	67.3	390.9	1 491.6	2 893.8
2771	GREETING CARD PUBLISHING	155	166	52	18.1	226.8	10.6	21.7	105.8	655.9	1 072.1
278	BLANKBOOKS AND BOOKBINDING	1 343	1 492	576	55.9	579.1	46.1	88.6	418.6	1 148.7	1 656.2
2782	BLANKBOOKS AND LOOSELEAF BINDERS	371	505	288	31.8	338.5	25.2	49.8	235.0	739.9	1 122.6
2789	BOOKBINDING AND RELATED WORK	974	987	288	24.1	240.6	20.9	38.8	183.6	408.8	533.6
279	PRINTING TRADE SERVICES	3 492	3 592	667	48.4	734.6	36.4	66.5	516.0	1 268.4	1 629.4
2791	TYPESETTING	2 370	2 406	389	27.2	364.7	21.7	38.8	271.6	623.4	730.6
2793	PHOTOENGRAVING	440	449	56	5.7	89.3	3.8	6.8	58.4	168.2	218.0
2794	ELECTROTYPING AND STEREOTYPING	40	40	5	.4	6.8	.3	.5	4.6	10.0	13.8
2795	LITHOGRAPHIC PLATEMAKING SERVICES	677	697	217	15.2	273.9	10.6	20.4	181.5	466.8	667.0
28	CHEMICALS AND ALLIED PRODUCTS	8 510	12 173	4 602	880.2	13 839.3	543.6	1 089.7	7 446.2	56 720.6	118 153.6
281	INDUSTRIAL INORGANIC CHEMICALS	550	1 282	490	110.0	1 847.2	67.8	138.6	1 033.4	6 487.2	12 845.0
2812	ALKALIES AND CHLORINE	30	49	33	11.8	215.9	8.0	16.0	136.2	822.5	1 654.8
2813	INDUSTRIAL GASES	109	562	102	7.5	117.2	4.6	9.6	67.0	732.8	1 234.6
2816	INORGANIC PIGMENTS	71	106	66	11.9	179.8	8.0	16.4	110.2	567.9	1 259.9

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
2451	MOBILE HOMES	69.8	27.1	42.7	193.3	165.5	99	99	71.9	547.3	1 033.9	3 242.9	63.4
2452	PREFABRICATED WOOD BUILDINGS	40.2	15.9	24.3	229.1	184.5	98	98	25.2	198.1	457.1	1 046.1	29.6
249	MISCELLANEOUS WOOD PRODUCTS	179.7	26.8	152.9	602.1	551.6	(NA)	(NA)	82.0	549.9	1 129.4	2 290.1	135.7
2491	WOOD PRESERVING	30.3	3.3	27.0	212.5	184.5	97	97	11.3	74.5	175.8	475.8	14.8
2492	PARTICLEBOARD	32.5	3.2	29.3	21.1	21.7	99	95	7.7	65.5	144.5	295.4	34.6
2499	WOOD PRODUCTS, NEC	116.9	20.3	96.5	368.5	345.4	94	93	63.0	410.0	809.1	1 518.9	86.3
25	FURNITURE AND FIXTURES	388.7	119.2	269.4	2 750.3	2 504.7	(NA)	(NA)	462.0	3 205.4	6 097.1	11 320.3	306.2
251	HOUSEHOLD FURNITURE	211.2	60.1	151.1	1 637.3	1 515.4	(NA)	(NA)	317.4	2 023.7	3 860.5	7 409.6	202.6
2511	WOOD HOUSEHOLD FURNITURE	101.9	26.8	75.2	821.5	771.6	94	96	133.8	806.8	1 556.9	2 870.0	93.8
2512	UPHOLSTERED HOUSEHOLD FURNITURE	50.4	16.6	33.9	378.6	341.2	91	96	92.0	605.3	1 104.0	2 104.7	54.7
2514	METAL HOUSEHOLD FURNITURE	22.8	4.7	18.1	217.0	197.9	89	91	34.4	222.5	447.2	890.4	16.9
2515	MATTRESSES AND BEDSPRINGS	14.5	3.7	10.8	155.6	142.7	95	86	31.4	233.7	479.9	1 041.7	20.7
2517	WOOD TV AND RADIO CABINETS	11.1	5.1	6.0	30.5	31.6	92	90	18.9	111.2	176.9	330.2	9.5
2519	HOUSEHOLD FURNITURE, NEC	10.4	3.3	7.1	34.1	30.5	79	84	6.9	44.2	95.6	172.6	7.0
252	OFFICE FURNITURE	67.6	23.8	43.8	344.4	299.6	(NA)	(NA)	39.3	330.0	659.9	1 111.2	31.8
2521	WOOD OFFICE FURNITURE	26.5	12.4	14.1	107.1	88.4	85	90	11.5	80.1	146.7	249.7	7.3
2522	METAL OFFICE FURNITURE	41.1	11.4	29.7	237.2	211.1	94	92	27.8	249.9	513.2	861.5	24.5
2531	PUBLIC BLDG., RELATED FURNITURE	22.3	6.8	15.5	138.3	122.0	88	87	-	-	-	-	-
254	PARTITIONS AND FIXTURES	58.9	19.4	39.5	394.7	351.2	(NA)	(NA)	57.4	483.9	871.0	1 527.7	34.0
2541	WOOD PARTITIONS AND FIXTURES	22.4	7.4	15.0	158.2	141.8	92	88	31.2	268.2	458.6	793.2	14.6
2542	METAL PARTITIONS AND FIXTURES	36.5	12.0	24.5	236.5	209.4	89	91	26.2	215.7	412.4	734.5	19.4
259	MISC. FURNITURE AND FIXTURES	28.7	9.2	19.5	235.7	216.5	(NA)	(NA)	26.5	209.9	409.9	736.5	24.7
2591	DRAPERY HARDWARE, BLINDS, SHADES	16.7	5.8	10.9	115.6	106.4	95	96	12.1	94.4	198.2	364.5	9.9
2599	FURNITURE AND FIXTURES, NEC	12.0	3.3	8.6	120.1	110.1	87	82	14.5	115.5	211.7	372.0	14.8
26	PAPER AND ALLIED PRODUCTS	3 295.0	326.0	2 969.0	5 641.5	5 281.0	(NA)	(NA)	633.4	5 992.1	13 064.1	28 261.9	1 335.3
2611	PULPMILLS	301.1	13.0	288.0	257.0	223.6	86	72	10.6	125.7	306.9	709.9	136.4
2621	PAPERMILLS, EXCEPT BUILDING PAPER	1 115.2	70.3	1 044.8	1 259.5	1 209.8	92	92	129.9	1 439.6	2 909.3	6 385.2	372.3
2631	PAPERBOARD MILLS	933.7	71.4	862.3	537.5	509.1	84	92	68.5	778.2	1 994.4	4 153.5	313.5
264	MISC. CONVERTED PAPER PRODUCTS	507.4	95.2	412.2	1 943.0	1 746.3	(NA)	(NA)	189.1	1 630.0	4 008.2	8 452.4	288.6
2641	PAPER COATING AND GLAZING	98.7	15.2	83.5	451.2	420.5	80	87	37.2	366.6	984.4	1 954.0	52.3
2642	ENVELOPES	22.9	3.5	19.4	122.2	109.9	97	93	22.9	194.6	347.1	620.8	17.4
2643	BAGS, EXCEPT TEXTILE BAGS	93.4	19.4	74.0	424.9	410.8	88	90	48.6	385.5	840.5	1 885.7	53.9
2645	DIE-CUT PAPER AND BOARD	15.3	2.8	12.5	114.3	94.0	88	84	15.2	132.5	301.6	676.3	10.6
2646	PRESSED AND MOLDED PULP GOODS	10.9	1.0	9.9	24.5	22.0	98	99	6.1	51.8	100.6	162.8	7.0
2647	SANITARY PAPER PRODUCTS	199.1	39.0	160.1	409.9	333.8	93	99	26.3	256.1	882.8	2 071.8	119.6
2648	STATIONERY PRODUCTS	15.9	4.1	11.8	118.2	114.4	86	80	14.7	106.3	225.6	450.5	9.3
2649	CONVERTED PAPER PRODUCTS, NEC	51.1	10.1	41.0	277.7	241.0	88	81	18.1	136.6	325.6	630.6	18.5
265	PAPERBOARD CONTAINERS AND BOXES	421.0	73.8	347.2	1 599.4	1 549.0	(NA)	(NA)	223.7	1 907.0	3 598.8	8 104.7	205.5
2651	FOLDING PAPERBOARD BOXES	89.8	14.2	75.5	421.8	402.2	87	91	45.3	398.1	739.7	1 487.0	37.4
2652	SETUP PAPERBOARD BOXES	8.8	2.0	6.8	48.2	46.4	93	87	18.1	111.6	195.9	321.3	6.4
2653	CORRUGATED AND SOLID FIBER BOXES	243.3	43.1	200.1	664.8	668.4	99	99	107.9	976.3	1 736.9	4 308.8	101.5
2654	SANITARY FOOD CONTAINERS	52.4	10.2	42.2	345.5	320.9	87	86	35.1	277.7	659.8	1 419.7	42.3
2655	FIBER CANS, DRUMS, SIMILAR PRODS	26.7	4.3	22.4	119.2	111.1	93	89	17.3	143.3	266.4	568.0	17.9
2661	BUILDING PAPER AND BOARD MILLS	16.6	2.2	14.4	45.0	43.1	93	83	11.6	111.6	246.5	456.2	18.8
27	PRINTING AND PUBLISHING	1 597.8	310.5	1 287.2	4 200.6	3 943.0	(NA)	(NA)	1 056.5	9 831.2	20 209.5	30 146.4	1 047.7
2711	NEWSPAPERS	478.1	93.5	384.6	382.1	371.8	96	100	348.5	3 168.1	6 219.9	8 262.8	359.5
2721	PERIODICALS	78.9	22.4	56.5	349.6	314.7	90	96	66.5	708.5	2 109.9	3 510.6	56.8
273	BOOKS	134.1	25.4	108.8	1 186.0	1 153.7	(NA)	(NA)	98.1	918.9	2 540.3	3 794.5	82.3
2731	BOOK PUBLISHING	79.8	16.3	63.5	992.0	963.4	94	88	57.1	557.7	1 935.8	2 856.8	48.4
2732	BOOK PRINTING	54.3	9.1	45.3	194.0	190.3	85	78	40.9	361.2	604.5	937.7	33.9
2741	MISCELLANEOUS PUBLISHING	39.1	14.1	25.0	139.1	121.7	95	89	38.8	331.2	775.8	1 070.2	22.7
275	COMMERCIAL PRINTING	639.5	114.9	524.6	1 359.8	1 200.1	(NA)	(NA)	344.2	3 277.4	5 695.0	9 329.7	377.8
2751	COMMERCIAL PRINTING, LETTERPRESS	163.0	32.0	131.0	372.7	345.8	89	81	130.1	1 131.7	2 003.0	3 291.8	129.2
2752	COMMERCIAL PRINTING, LITHOGRAPHIC	360.2	56.9	303.3	861.9	747.1	87	88	184.0	1 835.3	3 155.1	5 124.8	220.6
2753	ENGRAVING AND PLATE PRINTING	17.8	3.5	14.3	23.5	20.6	88	92	9.6	80.7	152.4	201.6	5.1
2754	COMMERCIAL PRINTING, GRAVURE	98.5	22.5	76.0	101.7	86.7	91	83	20.0	225.4	372.2	697.6	22.5
2761	MANIFOLD BUSINESS FORMS	82.1	12.5	69.6	336.7	313.7	93	95	38.6	343.6	823.6	1 429.7	45.8
2771	GREETING CARD PUBLISHING	18.8	5.8	13.0	160.6	207.8	78	95	23.5	191.5	527.0	774.4	46.4
278	BLANKBOOKS AND BOOKBINDING	55.3	11.1	44.2	175.9	155.1	(NA)	(NA)	51.7	371.6	686.8	968.2	25.6
2782	BLANKBOOKS AND LOOSELEAF BINDERS	36.0	9.0	27.1	130.2	112.0	86	91	26.6	192.7	390.6	591.1	14.4
2789	BOOKBINDING AND RELATED WORK	19.3	2.2	17.1	45.7	43.1	96	94	25.1	178.9	296.2	377.2	11.2
279	PRINTING TRADE SERVICES	71.7	10.7	61.1	110.8	104.5	(NA)	(NA)	46.6	520.5	831.3	1 006.3	30.6
2791	TYPESETTING	36.7	5.9	30.8	42.5	38.5	97	89	26.0	269.8	426.0	482.8	14.2
2793	PHOTOENGRAVING	7.5	1.2	6.3	13.2	11.6	83	79	9.9	119.3	191.7	229.7	5.4
2794	ELECTROTYPING AND STEREOTYPING	.1	(Z)	.1	.5	.5	79	66	1.7	19.0	28.5	36.8	.5
2795	LITHOGRAPHIC PLATEMAKING SERVICES	27.4	3.5	23.9	54.5	53.8	87	89	8.9	112.4	185.1	257.0	10.5
28	CHEMICALS AND ALLIED PRODUCTS	8 198.9	1 246.3	6 952.6	14 791.3	13 447.5	(NA)	(NA)	836.5	8 730.5	32 413.9	57 349.6	2 728.4
281	INDUSTRIAL INORGANIC CHEMICALS	1 055.5	138.8	916.6	1 305.7	1 161.2	(NA)	(NA)	99.5	1 078.5	3 343.1	6 132.7	333.4
2812	ALKALIES AND CHLORINE	220.0	22.2	197.7	141.8	132.4	63	58	13.3	152.0	455.6	823.2	61.5
2813	INDUSTRIAL GASES	243.0	23.2	219.8	45.6	27.8	97	93	9.6	87.2	466.7	679.3	84.1
2816	INORGANIC PIGMENTS	124.3	11.7	112.5	251.5	240.7	88	84	12.8	134.6	382.6	796.9	38.9

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
2819	INDUSTRIAL INORGANIC CHEM., NEC. . .	345	565	289	78.8	1 334.2	47.3	96.7	720.1	4 363.9	8 695.7
282	PLASTICS MATERIALS, SYNTHETICS . .	373	551	408	157.2	2 470.7	111.3	221.7	1 558.0	7 842.9	20 064.1
2821	PLASTICS MATERIALS AND RESINS. . . .	221	397	310	57.2	985.6	36.7	76.6	575.7	4 142.7	10 818.2
2822	SYNTHETIC RUBBER	56	63	30	10.0	185.2	7.1	14.2	125.7	568.6	1 863.3
2823	CELLULOSIC MANMADE FIBERS.	20	25	10	16.0	213.7	12.6	25.2	151.8	327.2	1 002.8
2824	ORGANIC FIBERS, NONCELLULOSIC. . . .	37	66	58	74.0	1 086.1	54.8	105.8	704.8	2 804.4	6 379.7
283	DRUGS.	1 020	1 243	482	156.4	2 459.6	80.3	157.5	997.2	9 939.9	14 247.8
2831	BIOLOGICAL PRODUCTS.	250	310	113	15.7	210.2	8.8	17.3	90.5	563.4	898.5
2833	MEDICINALS AND BOTANICALS.	153	177	76	14.4	219.9	8.4	17.1	127.2	1 162.2	1 889.9
2834	PHARMACEUTICAL PREPARATIONS.	655	756	293	126.4	2 029.5	63.1	123.1	779.4	8 214.4	11 459.4
284	SOAPS, CLEANERS, TOILET GOODS. . .	2 252	2 528	739	111.6	1 526.1	71.1	138.9	822.8	9 407.2	16 330.7
2841	SOAP AND OTHER DETERGENTS.	554	638	225	32.1	521.6	20.5	41.0	308.1	2 867.5	5 671.4
2842	POLISHES AND SANITATION GOODS. . . .	946	1 022	238	22.1	274.7	14.1	27.2	148.5	1 667.2	3 157.3
2843	SURFACE ACTIVE AGENTS.	148	175	84	6.6	101.9	3.7	7.7	47.3	345.7	944.8
2844	TOILET PREPARATIONS.	644	693	192	50.9	627.9	32.8	62.9	318.9	4 526.7	6 557.2
2851	PAINTS AND ALLIED PRODUCTS	1 288	1 579	853	61.4	882.6	33.0	66.2	394.1	2 821.3	6 629.7
286	INDUSTRIAL ORGANIC CHEMICALS . . .	574	879	510	152.8	2 794.2	97.8	200.1	1 625.3	12 875.1	30 261.1
2861	GUM AND WOOD CHEMICALS	100	119	37	4.8	54.0	3.8	7.8	38.9	185.0	391.3
2865	CYCLIC CRUDES AND INTERMEDIATES. . .	135	191	127	35.7	631.5	23.4	46.6	369.8	2 214.4	5 637.0
2869	INDUSTRIAL ORGANIC CHEMICALS, NEC. .	384	569	346	112.3	2 108.7	70.7	145.7	1 216.5	10 475.7	24 232.8
287	AGRICULTURAL CHEMICALS	885	1 325	482	53.9	784.0	35.3	72.8	454.8	3 807.9	9 932.2
2873	NITROGENOUS FERTILIZERS.	110	152	88	12.1	207.9	7.9	17.1	128.4	1 202.0	2 603.4
2874	PHOSPHATIC FERTILIZERS	45	91	69	14.4	212.8	10.1	21.7	139.2	817.7	2 681.7
2875	FERTILIZERS, MIXING ONLY	457	673	204	12.4	139.1	8.1	16.0	68.9	488.9	1 866.6
2879	AGRICULTURAL CHEMICALS, NEC.	338	409	121	15.0	224.1	9.3	17.9	118.2	1 299.3	2 780.4
289	MISCELLANEOUS CHEMICAL PRODUCTS. .	2 146	2 786	838	76.9	1 075.0	47.1	94.2	560.9	3 539.0	7 843.2
2891	ADHESIVES AND SEALANTS	405	573	213	16.7	230.7	10.2	20.6	113.5	748.7	1 813.1
2892	EXPLOSIVES	63	97	53	12.3	173.2	8.4	16.1	101.4	410.7	666.3
2893	PRINTING INK	205	446	157	10.1	145.1	5.8	11.4	71.6	367.8	944.9
2895	CARBON BLACK	8	31	31	2.5	42.5	2.0	4.6	32.5	170.2	468.4
2899	CHEMICAL PREPARATIONS, NEC	1 479	1 639	384	35.3	483.4	20.7	41.5	242.0	1 841.7	3 950.6
29	PETROLEUM AND COAL PRODUCTS. . .	1 361	2 206	773	146.8	2 696.2	101.1	207.9	1 765.4	16 377.6	97 452.7
2911	PETROLEUM REFINING	192	349	279	102.5	2 055.3	70.8	144.4	1 366.4	14 423.9	91 688.8
295	PAVING AND ROOFING MATERIALS . . .	729	1 297	328	32.3	461.3	23.9	51.0	319.4	1 272.0	3 655.9
2951	PAVING MIXTURES AND BLOCKS	590	1 022	164	12.8	189.6	9.6	20.1	133.6	507.8	1 578.3
2952	ASPHALT FELTS AND COATINGS	146	275	164	19.5	271.7	14.3	31.0	185.9	764.2	2 077.6
299	MISC. PETROLEUM, COAL PRODUCTS . .	472	560	166	11.9	179.6	6.4	12.5	79.6	681.7	2 108.0
2992	LUBRICATING OILS AND GREASES	417	490	143	10.3	157.1	5.4	10.4	65.4	524.8	1 644.7
2999	PETROLEUM AND COAL PRODUCTS, NEC . .	60	70	23	1.6	22.5	1.1	2.1	14.2	157.0	463.3
30	RUBBER, MISC. PLASTICS PROD. . .	10 047	11 943	5 294	721.3	8 536.0	563.7	1 110.6	5 841.6	19 740.0	39 552.8
3011	TIRES AND INNER TUBES.	121	200	126	114.0	1 832.4	88.3	176.4	1 366.0	4 347.3	8 971.0
3021	RUBBER AND PLASTICS FOOTWEAR	67	84	50	19.8	159.1	16.4	30.0	115.9	272.3	517.0
3031	RECLAIMED RUBBER	21	21	9	.9	11.5	.7	1.5	8.4	24.8	41.6
3041	RUBBER, PLASTICS HOSE AND BELTING. .	101	146	103	34.4	457.4	23.4	45.3	274.9	973.5	1 765.7
3069	FABRICATED RUBBER PRODUCTS, NEC. . .	1 127	1 280	621	98.5	1 164.0	77.1	153.3	795.4	2 351.9	4 565.0
3079	MISCELLANEOUS PLASTICS PRODUCTS. . .	8 748	10 212	4 385	453.7	4 911.7	358.0	704.1	3 281.0	11 770.1	23 692.6
31	LEATHER AND LEATHER PRODUCTS . .	2 654	3 075	1 486	242.5	1 859.7	211.5	381.9	1 408.1	3 718.8	7 607.4
3111	LEATHER TANNING AND FINISHING. . . .	428	465	191	23.0	254.8	19.6	38.2	192.2	535.1	1 456.1
3131	BOOT, SHOE CUT STOCK AND FINDINGS. .	174	190	96	8.5	65.3	7.4	13.0	48.8	109.4	270.6
314	FOOTWEAR, EXCEPT RUBBER.	541	811	603	145.5	1 031.5	129.2	231.3	822.4	2 069.5	3 891.7
3142	HOUSE SLIPPERS	65	78	55	8.1	54.5	7.0	11.7	39.6	108.8	201.2
3143	MEN'S FOOTWEAR, EXCEPT ATHLETIC. . .	115	213	180	55.0	417.0	49.2	90.1	332.2	871.9	1 734.5
3144	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC. .	243	328	241	57.6	388.6	51.3	91.3	315.6	755.0	1 361.2
3149	FOOTWEAR, EXCEPT RUBBER, NEC	159	192	127	24.8	171.4	21.8	38.2	135.1	333.7	594.8
3151	LEATHER GLOVES AND MITTENS	84	101	66	5.5	33.9	4.7	8.2	25.5	67.6	178.0
3161	LUGGAGE.	286	298	130	19.2	164.1	15.8	29.0	105.5	328.3	654.9
317	WOMEN'S HANDBAGS AND PURSES. . . .	654	678	283	32.1	242.2	27.8	49.9	170.0	472.2	872.0
3171	WOMEN'S HANDBAGS AND PURSES.	404	418	186	20.3	144.0	18.2	32.8	109.1	266.5	505.2
3172	PERSONAL LEATHER GOODS, NEC.	253	260	97	11.9	98.2	9.6	17.2	60.9	205.8	366.8
3199	LEATHER GOODS, NEC	512	532	117	8.6	67.9	7.0	12.4	43.7	136.7	284.2
32	STONE, CLAY, GLASS PRODUCTS. . .	14 495	17 744	5 201	613.7	7 943.1	484.4	960.7	5 766.6	19 129.6	35 476.6
3211	FLAT GLASS	43	62	32	21.9	401.0	18.5	39.9	328.2	931.0	1 576.6
322	GLASS, PRESSED OR BLOWN.	353	508	249	117.0	1 548.2	101.1	194.5	1 268.9	3 592.0	5 784.2
3221	GLASS CONTAINERS	31	126	124	70.8	975.4	62.5	120.1	823.0	2 138.9	3 664.2
3229	PRESSED AND BLOWN GLASS, NEC	325	382	125	46.2	572.8	38.6	74.4	445.9	1 453.1	2 120.1
3231	PRODUCTS OF PURCHASED GLASS.	1 000	1 101	325	36.2	429.2	28.8	56.7	305.9	960.2	1 842.4
3241	CEMENT, HYDRAULIC.	87	201	160	27.8	485.1	22.2	44.4	380.0	1 671.5	3 042.3
325	STRUCTURAL CLAY PRODUCTS	504	711	471	45.0	486.4	36.6	73.3	360.3	1 057.8	1 852.0

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977—Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million Dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
2819	INDUSTRIAL INORGANIC CHEM., NEC. . .	468.2	81.7	386.6	866.9	760.3	87	77	63.8	704.7	2 038.2	3 633.3	149.0
282	PLASTICS MATERIALS, SYNTHETICS . .	1 316.1	151.9	1 164.3	2 020.5	1 854.1	(NA)	(NA)	161.9	1 666.3	4 935.4	9 796.0	693.9
2821	PLASTICS MATERIALS AND RESINS. . .	895.2	101.2	794.0	1 093.6	982.3	85	74	54.8	632.8	2 160.5	4 478.2	253.2
2822	SYNTHETIC RUBBER	53.2	3.9	49.3	154.3	148.9	91	71	11.8	138.8	491.7	1 089.4	35.5
2823	CELLULOSIC MANMADE FIBERS.	29.3	1.0	28.3	110.8	107.9	(D)	(D)	17.1	135.2	243.5	589.5	32.7
2824	ORGANIC FIBERS, NONCELLULOSIC. . .	338.5	45.8	292.7	661.8	614.9	84	97	78.2	759.5	2 039.8	3 638.9	372.5
283	DRUGS.	578.5	154.8	423.7	2 446.5	2 231.6	(NA)	(NA)	129.9	1 413.3	6 130.9	8 018.5	245.3
2831	BIOLOGICAL PRODUCTS.	35.4	11.3	24.2	246.9	222.3	93	73	10.1	102.9	231.4	360.0	27.2
2833	MEDICINALS AND BOTANICALS.	123.8	19.8	104.0	307.0	297.9	82	68	7.8	80.8	260.0	509.0	51.5
2834	PHARMACEUTICAL PREPARATIONS. . . .	419.3	123.8	295.5	1 892.6	1 711.5	86	97	112.0	1 229.7	5 639.5	7 149.5	166.7
284	SOAPS, CLEANERS, TOILET GOODS. . .	334.0	65.8	268.2	1 794.9	1 699.8	(NA)	(NA)	111.6	1 058.2	6 200.6	9 777.6	236.1
2841	SOAP AND OTHER DETERGENTS.	135.5	15.9	119.6	643.4	616.7	84	89	31.5	341.6	2 038.8	3 394.4	90.7
2842	POLISHES AND SANITATION GOODS. . .	51.8	12.7	39.2	274.9	264.3	76	79	25.1	216.9	1 118.1	1 867.6	54.3
2843	SURFACE ACTIVE AGENTS.	41.1	8.2	32.8	116.3	106.9	81	55	6.9	71.5	209.5	462.6	19.7
2844	TOILET PREPARATIONS.	105.6	29.0	76.6	760.3	712.0	95	87	48.2	428.2	2 834.1	4 053.0	71.4
2851	PAINTS AND ALLIED PRODUCTS	167.4	52.5	114.9	937.6	864.2	96	97	65.9	647.2	1 791.7	3 821.8	81.5
286	INDUSTRIAL ORGANIC CHEMICALS . . .	3 352.5	511.1	2 841.5	3 852.8	3 439.3	(NA)	(NA)	136.6	1 614.3	6 073.1	11 605.4	831.6
2861	GUM AND WOOD CHEMICALS	27.0	10.8	16.2	65.7	63.6	76	67	5.9	47.6	155.4	332.3	11.1
2865	CYCLIC CRUDES AND INTERMEDIATES. . .	443.1	52.6	390.5	844.4	784.2	68	67	28.2	318.2	929.7	2 049.6	158.8
2869	INDUSTRIAL ORGANIC CHEMICALS, NEC. .	2 882.6	447.7	2 434.9	2 942.7	2 591.5	69	84	102.4	1 248.6	4 988.0	9 223.5	661.7
287	AGRICULTURAL CHEMICALS	1 107.2	99.0	1 008.2	1 564.7	1 394.3	(NA)	(NA)	47.9	438.4	1 736.5	3 929.1	155.8
2873	NITROGENOUS FERTILIZERS.	734.4	34.7	699.6	378.0	296.9	84	72	9.4	104.3	447.6	799.4	33.2
2874	PHOSPHATIC FERTILIZERS	111.8	13.8	97.9	419.7	353.9	93	91	14.9	135.1	426.4	1 178.9	65.8
2875	FERTILIZERS, MIXING ONLY	41.9	9.3	32.6	306.5	303.3	95	98	11.4	82.5	263.6	800.0	17.2
2879	AGRICULTURAL CHEMICALS, NEC. . . .	219.2	41.1	178.0	460.6	440.2	83	77	12.2	116.5	598.9	1 150.8	39.5
289	MISCELLANEOUS CHEMICAL PRODUCTS. .	287.4	72.3	215.2	868.1	802.8	(NA)	(NA)	83.1	814.3	2 202.6	4 268.4	150.8
2891	ADHESIVES AND SEALANTS	39.0	9.4	29.6	202.5	187.3	89	81	14.9	148.2	426.6	928.0	24.9
2892	EXPLOSIVES	26.1	7.3	18.8	59.8	54.8	86	95	18.6	178.9	281.7	402.7	30.1
2893	PRINTING INK	17.0	4.3	12.8	116.7	101.7	97	97	9.6	99.3	232.0	508.4	12.6
2895	CARBON BLACK	22.7	1.5	21.2	32.7	27.3	[6]95	[6]95	2.9	31.9	137.6	227.0	11.8
2899	CHEMICAL PREPARATIONS, NEC	182.6	49.8	132.9	456.5	431.7	87	77	37.1	356.0	1 124.7	2 202.3	71.3
29	PETROLEUM AND COAL PRODUCTS. . .	2 261.3	617.8	1 643.5	5 656.3	4 912.9	(NA)	(NA)	139.5	1 637.5	5 793.1	28 694.7	1 154.2
2911	PETROLEUM REFINING	2 108.6	589.2	1 519.5	5 196.2	4 471.6	99	97	100.8	1 247.1	4 594.7	25 921.1	1 061.6
295	PAVING AND ROOFING MATERIALS . . .	112.5	21.3	91.2	220.0	196.1	(NA)	(NA)	29.5	296.5	846.4	1 932.9	75.9
2951	PAVING MIXTURES AND BLOCKS	57.3	8.4	48.9	62.8	53.5	95	93	13.9	147.7	403.1	922.5	56.3
2952	ASPHALT FELTS AND COATINGS	55.2	13.0	42.2	157.2	142.6	91	97	15.6	148.7	443.3	1 010.4	19.6
299	MISC. PETROLEUM, COAL PRODUCTS . .	40.1	7.2	32.9	240.1	245.2	(NA)	(NA)	9.2	93.9	352.1	840.7	16.7
2992	LUBRICATING OILS AND GREASES . . .	25.6	5.7	19.9	180.8	192.9	94	44	8.1	83.3	295.8	703.1	13.7
2999	PETROLEUM AND COAL PRODUCTS, NEC . .	14.5	1.5	13.0	59.3	52.3	97	87	1.1	10.6	56.3	137.6	3.0
30	RUBBER, MISC. PLASTICS PROD. . .	1 645.3	306.4	1 338.9	4 952.7	4 441.4	(NA)	(NA)	617.7	5 165.2	11 653.3	20 923.7	1 059.6
3011	TIRES AND INNER TUBES.	289.0	38.4	250.6	1 172.1	1 015.0	96	99	107.5	1 214.1	3 070.8	5 747.1	267.1
3021	RUBBER AND PLASTICS FOOTWEAR . . .	11.3	.9	10.4	140.7	129.0	93	99	31.6	182.6	370.3	600.0	17.7
3031	RECLAIMED RUBBER	.5	(Z)	.5	3.7	3.7	100	62	.9	9.1	15.6	29.7	.7
3041	RUBBER, PLASTICS HOSE AND BELTING. .	55.3	15.3	40.1	275.4	267.6	88	92	31.9	309.0	618.7	1 020.1	31.6
3069	FABRICATED RUBBER PRODUCTS, NEC. . .	135.0	28.2	106.9	510.5	476.6	88	90	99.0	808.8	1 573.1	2 830.9	88.5
3079	MISCELLANEOUS PLASTICS PRODUCTS. . .	1 154.2	223.7	930.5	2 850.3	2 549.6	94	91	346.9	2 641.6	6 004.7	10 695.9	654.0
31	LEATHER AND LEATHER PRODUCTS . .	96.2	21.6	74.6	1 098.9	1 033.0	(NA)	(NA)	273.4	1 589.3	2 917.2	5 769.5	74.5
3111	LEATHER TANNING AND FINISHING. . . .	30.7	6.8	23.9	187.6	176.1	99	99	25.7	200.0	368.3	1 059.5	16.3
3131	BOOT, SHOE CUT STOCK AND FINDINGS. .	3.0	.8	2.2	31.2	33.0	90	92	8.7	50.1	86.2	206.5	2.9
314	FOOTWEAR, EXCEPT RUBBER.	37.1	9.0	28.1	558.0	518.8	(NA)	(NA)	176.2	972.7	1 796.1	3 272.2	37.1
3142	HOUSE SLIPPERS	2.3	.7	1.6	29.7	28.9	94	96	8.5	48.1	85.7	151.4	1.6
3143	MEN'S FOOTWEAR, EXCEPT ATHLETIC. . .	14.5	3.4	11.0	272.2	245.6	92	96	61.5	358.1	674.4	1 288.9	14.3
3144	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC. .	9.7	2.1	7.6	147.4	148.3	97	92	77.4	408.4	763.6	1 346.1	14.8
3149	FOOTWEAR, EXCEPT RUBBER, NEC	10.6	2.8	7.8	108.7	96.0	84	83	28.7	158.1	272.5	485.8	6.4
3151	LEATHER GLOVES AND MITTENS	1.9	.3	1.6	33.7	30.9	83	85	4.9	22.1	43.0	98.2	.5
3161	LUGGAGE.	8.1	1.0	7.1	113.5	114.8	94	98	17.1	106.8	194.1	364.5	8.9
317	WOMEN'S HANDBAGS AND PURSES. . . .	11.4	2.4	9.0	124.5	116.2	(NA)	(NA)	33.6	195.1	345.1	607.2	6.5
3171	WOMEN'S HANDBAGS AND PURSES.	6.6	1.7	4.9	61.9	56.1	97	97	22.2	121.7	201.5	365.0	3.7
3172	PERSONAL LEATHER GOODS, NEC.	4.8	.7	4.1	62.5	60.2	96	91	11.5	73.4	143.7	242.2	2.8
3199	LEATHER GOODS, NEC	4.1	1.4	2.7	50.6	43.2	94	95	7.2	42.5	84.3	161.3	2.2
32	STONE, CLAY, GLASS PRODUCTS. . .	1 881.4	337.2	1 544.2	4 279.3	3 995.3	(NA)	(NA)	623.2	5 546.9	12 586.5	21 537.5	1 195.5
3211	FLAT GLASS	81.1	11.8	69.3	211.4	191.9	[6]90	(D)	20.9	241.9	662.1	937.1	95.0
322	GLASS, PRESSED OR BLOWN.	364.5	59.1	305.4	759.4	760.9	(NA)	(NA)	118.8	1 057.5	2 341.1	3 393.8	176.7
3221	GLASS CONTAINERS	220.9	34.3	186.7	408.7	429.6	99	99	72.9	659.4	1 399.7	2 126.5	121.1
3229	PRESSED AND BLOWN GLASS, NEC . . .	143.6	24.9	118.7	350.7	331.2	97	96	45.9	398.1	941.4	1 267.3	55.6
3231	PRODUCTS OF PURCHASED GLASS. . . .	73.4	23.0	50.4	285.6	261.5	[6]95	(D)	33.7	296.1	668.9	1 330.1	34.5
3241	CEMENT, HYDRAULIC.	296.6	41.7	254.9	484.8	463.2	99	99	30.0	349.2	1 153.5	1 791.2	179.5
325	STRUCTURAL CLAY PRODUCTS	82.3	16.7	65.6	299.0	304.5	(NA)	(NA)	51.8	391.4	770.6	1 205.3	64.0

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
3251	BRICK AND STRUCTURAL CLAY TILE	250	352	262	20.5	197.3	17.0	34.0	149.2	467.9	777.7
3253	CERAMIC WALL AND FLOOR TILE	62	79	48	7.8	78.3	6.3	12.8	56.4	155.4	252.5
3255	CLAY REFRACTORIES	98	167	104	11.3	146.8	8.8	17.6	106.5	308.4	607.2
3259	STRUCTURAL CLAY PRODUCTS, NEC	94	113	57	5.5	64.0	4.5	8.9	48.2	126.1	214.6
326	POTTERY AND RELATED PRODUCTS	885	934	241	43.2	459.6	35.6	67.8	341.9	893.6	1 260.9
3261	VITREOUS PLUMBING FIXTURES	54	70	38	9.2	117.2	7.8	15.6	96.9	277.3	411.4
3262	VITREOUS CHINA FOOD UTENSILS	26	28	14	7.3	72.3	6.0	11.1	53.6	140.0	170.7
3263	FINE EARTHENWARE FOOD UTENSILS	22	23	17	4.7	38.4	3.5	6.4	27.1	61.2	81.3
3264	PORCELAIN ELECTRICAL SUPPLIES	77	86	56	11.4	144.4	9.1	17.6	98.0	253.9	367.5
3269	POTTERY PRODUCTS, NEC	713	727	116	10.6	87.4	9.2	17.1	66.2	161.2	230.0
327	CONCRETE, GYPSUM, PLASTER PRODS.	8 899	10 844	2 711	183.7	2 366.8	134.4	272.6	1 558.6	5 390.8	11 804.8
3271	CONCRETE BLOCK AND BRICK	1 162	1 273	348	18.7	237.1	11.8	24.1	126.6	520.3	1 143.8
3272	CONCRETE PRODUCTS, NEC	3 475	3 916	862	61.7	734.9	48.1	96.0	494.5	1 529.3	2 736.2
3273	READY-MIXED CONCRETE	4 317	5 433	1 357	87.9	1 175.8	62.0	125.3	766.6	2 693.2	6 440.6
3274	LIME	64	94	63	5.9	75.4	4.8	9.8	59.4	218.2	484.2
3275	GYPSUM PRODUCTS	58	128	81	9.5	143.6	7.6	17.3	111.5	429.6	1 000.0
3281	CUT STONE AND STONE PRODUCTS	963	993	164	12.7	131.5	10.6	21.4	98.8	238.2	393.0
329	MISC. NONMETALLIC MINERAL PRODS.	1 960	2 390	848	126.2	1 635.2	96.6	190.0	1 123.9	4 394.5	7 920.2
3291	ABRASIVE PRODUCTS	353	410	178	28.3	392.3	20.1	38.5	241.2	1 097.7	1 955.8
3292	ASBESTOS PRODUCTS	86	123	76	13.9	179.9	11.0	22.6	137.4	439.3	882.1
3293	GASKETS, PACKING, SEALING DEVICES	384	433	217	33.0	371.3	25.0	47.5	237.3	748.3	1 267.1
3295	MINERALS, GROUND OR TREATED	318	466	151	11.5	156.3	8.9	18.1	111.8	479.4	957.3
3296	MINERAL WOOL	95	153	90	22.6	313.8	18.6	38.3	244.5	1 053.7	1 790.5
3297	NONCLAY REFRACTORIES	74	109	66	9.1	134.3	6.8	13.5	92.5	352.1	680.2
3299	NONMETALLIC MINERAL PRODUCTS, NEC	681	696	70	7.7	87.2	6.2	11.4	59.1	224.1	387.3
33	PRIMARY METAL INDUSTRIES	5 929	7 375	3 980	1 113.6	18 745.0	885.3	1 744.0	14 065.2	37 568.2	103 179.4
331	BLAST FURNACE, BASIC STEEL PROD.	887	1 216	740	529.7	10 085.5	417.9	804.5	7 631.3	18 318.4	50 582.1
3312	BLAST FURNACES AND STEEL MILLS	395	504	250	441.9	8 725.7	350.2	668.7	6 653.0	15 331.9	41 998.2
3313	ELECTROMETALLURGICAL PRODUCTS	28	42	31	8.9	139.2	7.0	14.3	103.9	274.6	930.6
3315	STEEL WIRE AND RELATED PRODUCTS	262	335	223	31.7	436.6	24.3	49.0	304.9	924.4	2 258.6
3316	COLD FINISHING OF STEEL SHAPES	118	155	94	19.4	334.6	14.6	28.7	238.8	799.6	2 713.2
3317	STEEL PIPE AND TUBES	130	180	142	27.8	449.4	21.8	43.7	330.6	987.9	2 681.4
332	IRON AND STEEL FOUNDRIES	1 251	1 465	1 033	222.3	3 329.2	183.8	367.9	2 582.6	6 236.6	10 830.2
3321	GRAY IRON FOUNDRIES	865	984	683	138.8	2 146.0	116.8	236.1	1 703.2	4 070.7	7 388.7
3322	MALLEABLE IRON FOUNDRIES	58	66	53	18.2	273.0	14.6	27.9	202.5	458.8	721.9
3324	STEEL INVESTMENT FOUNDRIES	80	92	68	10.5	128.7	8.1	16.5	85.9	267.4	407.5
3325	STEEL FOUNDRIES, NEC	287	323	229	54.8	781.5	44.2	87.3	591.0	1 439.8	2 312.1
333	PRIMARY NONFERROUS METALS	103	160	99	57.3	1 032.1	44.9	89.1	768.4	3 618.6	10 660.2
3331	PRIMARY COPPER	8	27	27	13.1	217.3	10.6	20.6	167.5	904.3	3 918.1
3332	PRIMARY LEAD	4	7	7	2.5	40.5	2.0	4.1	30.2	189.5	699.6
3333	PRIMARY ZINC	8	9	7	4.6	70.5	3.5	6.9	49.3	114.3	430.7
3334	PRIMARY ALUMINUM	12	32	32	28.6	555.0	22.8	45.5	426.3	1 980.9	4 647.8
3339	PRIMARY NONFERROUS METALS, NEC	81	85	26	8.6	148.8	6.0	12.1	95.1	429.5	963.9
3341	SECONDARY NONFERROUS METALS	393	460	200	18.9	269.8	14.0	28.4	169.7	769.3	3 558.0
335	NONFERROUS ROLLING AND DRAWING	626	1 002	711	177.4	2 640.0	136.0	278.5	1 901.5	5 902.3	22 227.3
3351	COPPER ROLLING AND DRAWING	102	140	99	31.3	455.5	24.2	50.5	338.7	973.7	4 013.8
3353	ALUMINUM SHEET, PLATE, AND FOIL	31	53	45	31.4	613.5	25.0	50.6	480.1	1 340.6	5 970.7
3354	ALUMINUM EXTRUDED PRODUCTS	133	193	146	26.5	355.9	21.2	44.0	264.1	678.6	2 050.0
3355	ALUMINUM ROLLING AND DRAWING, NEC	18	22	15	4.7	78.1	3.6	6.9	56.5	222.8	1 001.0
3356	NONFERROUS ROLLING & DRAWING, NEC	153	173	86	17.2	260.2	12.2	24.7	158.7	569.0	22 596.5
3357	NONFERROUS WIREDRAWING, INSULATING	245	421	320	66.3	876.8	50.0	101.8	603.4	2 117.6	6 595.4
336	NONFERROUS FOUNDRIES	1 806	1 892	805	82.1	1 043.8	68.6	134.1	782.6	1 959.6	3 826.1
3361	ALUMINUM FOUNDRIES	994	1 038	461	52.2	691.4	44.2	86.3	531.0	1 262.7	2 459.1
3362	BRASS, BRONZE, COPPER FOUNDRIES	476	489	180	12.6	148.3	10.2	19.8	106.7	283.0	553.3
3369	NONFERROUS FOUNDRIES, NEC	359	365	164	17.3	204.1	14.2	28.0	144.9	413.9	813.7
339	MISC. PRIMARY METAL PRODUCTS	1 102	1 180	392	26.0	344.5	20.2	41.5	229.2	763.3	1 495.5
3398	METAL HEAT TREATING	682	753	273	16.9	220.1	13.3	27.6	147.9	466.8	744.9
3399	PRIMARY METAL PRODUCTS, NEC	406	427	119	9.0	124.4	6.9	13.9	81.2	296.5	750.6
34	FABRICATED METAL PRODUCTS	29 966	33 712	12 739	1 555.7	21 035.9	1 191.6	2 373.8	14 428.8	45 511.5	90 023.5
341	METAL CANS, SHIPPING CONTAINERS	269	587	413	72.3	1 246.5	60.0	126.5	999.6	3 643.9	9 180.0
3411	METAL CANS	153	403	300	59.8	1 066.3	50.2	106.4	870.8	3 254.3	8 242.8
3412	METAL BARRELS, DRUMS, AND PAILS	120	184	113	12.4	180.3	9.8	20.1	128.8	389.6	937.1
342	CUTLERY, HANDTOOLS AND HARDWARE	1 924	2 137	877	168.6	2 179.3	132.6	264.5	1 553.4	5 176.6	8 556.5
3421	CUTLERY	119	130	82	14.9	159.6	12.1	23.5	118.3	492.0	711.4
3423	HAND AND EDGE TOOLS, NEC	662	724	296	47.0	566.4	36.9	72.8	394.7	1 421.4	2 279.2
3425	HANDSAWS AND SAW BLADES	105	115	53	7.6	94.3	5.7	11.4	62.7	230.6	363.3
3429	HARDWARE, NEC	1 063	1 168	464	99.2	1 359.0	77.9	156.8	977.7	3 032.6	5 202.6
343	PLUMBING, HEATING, EXCEPT ELEC	960	1 015	341	53.2	636.8	40.6	80.4	422.8	1 573.6	3 087.6
3431	METAL SANITARY WARE	96	101	37	8.1	109.7	6.7	14.4	87.5	248.7	477.6
3432	PLUMBING FITTINGS AND BRASS GOODS	191	213	110	19.3	215.0	15.3	30.0	145.0	579.3	1 166.4
3433	HEATING EQUIPMENT, EXC. ELECTRIC	678	701	194	25.8	312.2	18.7	36.0	190.3	745.6	1 443.6
344	FABRICATED STRUC. METAL PRODS.	10 725	11 817	4 279	425.7	5 491.9	308.5	603.3	3 467.2	11 785.3	24 993.8
3441	FABRICATED STRUCTURAL METAL	2 319	2 462	1 074	99.3	1 313.6	72.8	144.2	836.9	2 559.8	5 505.2
3442	METAL DOORS, SASH, AND TRIM	1 498	1 672	644	65.8	671.3	50.1	97.0	425.0	1 418.3	3 135.6
3443	FABRICATED PLATEWORK, BOILER SHOP	1 683	1 864	944	123.5	1 777.8	87.7	171.6	1 125.8	4 075.3	7 432.4
3444	SHEET METALWORK	3 222	3 430	1 008	77.4	980.2	56.7	109.5	636.6	2 095.1	4 863.5
3446	ARCHITECTURAL METALWORK	1 477	1 511	225	20.8	247.7	15.1	29.4	152.3	505.5	947.1
3448	PREFABRICATED METAL BUILDINGS	414	466	199	22.7	289.7	15.9	31.6	174.9	694.5	1 779.2

See footnotes at end of table.

Table 3. **Selected Statistics by Major Industry Group and Industry: 1977 and 1972**—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
3251	BRICK AND STRUCTURAL CLAY TILE	49.6	10.2	39.5	93.2	98.3	99	99	24.1	168.4	336.4	513.0	38.6
3253	CERAMIC WALL AND FLOOR TILE	6.6	.7	6.0	42.1	40.3	99	95	8.3	58.5	112.3	175.6	7.6
3255	CLAY REFRACTORIES	20.0	4.4	15.6	126.4	131.4	89	95	11.2	100.5	202.1	336.0	10.8
3259	STRUCTURAL CLAY PRODUCTS, NEC	6.1	1.4	4.6	37.2	34.5	94	92	8.2	64.0	119.8	180.7	7.0
326	POTTERY AND RELATED PRODUCTS	45.2	11.5	33.7	182.0	169.0	(NA)	(NA)	44.9	335.3	600.6	834.8	23.1
3261	VITREOUS PLUMBING FIXTURES	7.3	1.9	5.4	48.9	49.1	92	95	9.6	86.5	186.8	270.0	5.8
3262	VITREOUS CHINA FOOD UTENSILS	5.4	1.6	3.8	30.0	26.2	[6]80	94	5.9	41.2	67.4	81.9	1.8
3263	FINE EARTHENWARE FOOD UTENSILS	1.7	.4	1.3	17.2	14.9	[6]85	76	6.8	41.4	56.2	74.3	3.1
3264	PORCELAIN ELECTRICAL SUPPLIES	20.9	5.3	15.6	59.3	54.3	86	82	13.4	114.0	190.4	274.6	7.2
3269	POTTERY PRODUCTS, NEC	9.8	2.4	7.5	26.7	24.6	95	85	9.1	52.2	99.9	134.0	5.2
327	CONCRETE, GYPSUM, PLASTER PRODS.	604.8	105.8	499.0	864.8	774.7	(NA)	(NA)	193.1	1 741.0	3 839.7	7 746.4	453.1
3271	CONCRETE BLOCK AND BRICK	55.6	9.8	45.9	124.0	118.4	93	85	22.8	196.0	438.5	855.7	46.2
3272	CONCRETE PRODUCTS, NEC	134.4	30.2	104.2	389.7	357.0	96	95	67.7	570.2	1 190.1	1 961.4	96.2
3273	READY-MIXED CONCRETE	353.1	54.1	299.0	231.5	193.7	93	98	85.7	809.3	1 756.7	4 050.9	247.8
3274	LIME	29.7	6.9	22.9	47.2	39.0	92	92	5.7	50.0	129.3	238.1	39.4
3275	GYPSUM PRODUCTS	31.9	4.9	27.0	72.4	66.6	96	98	11.2	115.5	325.1	640.3	23.3
3281	CUT STONE AND STONE PRODUCTS	10.4	2.1	8.3	53.8	50.0	96	95	15.0	109.2	191.4	304.5	12.6
329	MISC. NONMETALLIC MINERAL PRODS.	323.1	65.5	257.6	1 138.5	1 019.8	(NA)	(NA)	115.1	1 025.4	2 358.8	3 994.4	157.0
3291	ABRASIVE PRODUCTS	48.7	12.0	36.7	317.7	247.8	90	97	24.5	229.4	529.6	888.1	17.2
3292	ASBESTOS PRODUCTS	26.0	5.4	20.6	168.0	161.3	92	81	21.0	191.0	426.1	763.4	20.4
3293	GASKETS, PACKING, SEALING DEVICES	46.5	8.0	38.5	208.6	195.5	93	89	27.7	220.4	428.5	665.4	24.9
3295	MINERALS, GROUND OR TREATED	50.2	9.7	40.5	116.3	116.4	96	90	9.5	87.9	237.2	412.0	30.0
3296	MINERAL WOOL	85.9	12.2	73.7	121.5	116.5	93	96	18.0	172.3	441.5	755.4	50.1
3297	NONCLAY REFRACTORIES	37.1	6.9	30.2	159.5	141.8	92	83	8.1	78.3	191.1	343.6	9.3
3299	NONMETALLIC MINERAL PRODUCTS, NEC	28.7	11.2	17.4	46.9	40.5	93	89	6.3	46.0	104.7	166.5	5.0
33	PRIMARY METAL INDUSTRIES	4 496.8	652.8	3 844.0	18 458.3	17 884.5	(NA)	(NA)	1 142.8	12 166.5	23 258.1	58 429.7	2 160.6
331	BLAST FURNACE, BASIC STEEL PROD.	2 442.7	269.1	2 173.6	10 306.4	10 327.8	(NA)	(NA)	552.9	6 388.6	12 116.1	28 652.3	1 058.8
3312	BLAST FURNACES AND STEEL MILLS	2 143.0	225.5	1 917.6	8 471.6	8 620.6	(NA)	(NA)	469.1	5 537.8	10 304.7	23 946.7	961.2
3313	ELECTROMETALLURGICAL PRODUCTS	53.2	4.2	49.1	403.8	367.3	(D)	90	9.5	94.1	217.2	550.1	26.3
3315	STEEL WIRE AND RELATED PRODUCTS	79.4	14.3	65.1	422.8	409.7	95	47	30.6	287.9	583.5	1 227.7	26.6
3316	COLD FINISHING OF STEEL SHAPES	49.6	5.6	43.9	436.6	383.3	95	25	20.1	223.3	504.6	1 635.7	20.6
3317	STEEL PIPE AND TUBES	117.5	19.6	97.9	571.6	546.9	95	44	23.6	245.5	506.1	1 292.1	24.1
332	IRON AND STEEL FOUNDRIES	658.8	129.4	529.4	1 104.8	1 027.1	(NA)	(NA)	218.8	2 155.3	3 481.3	5 713.9	279.9
3321	GRAY IRON FOUNDRIES	503.1	102.3	400.8	654.4	596.2	96	88	138.4	1 387.4	2 257.0	3 876.5	202.5
3322	MALLEABLE IRON FOUNDRIES	28.9	6.5	22.4	43.6	41.1	86	93	22.5	234.5	342.6	507.9	34.9
3324	STEEL INVESTMENT FOUNDRIES	10.9	1.6	9.3	65.6	57.0	93	86	11.2	93.2	175.6	262.2	11.1
3325	STEEL FOUNDRIES, NEC	115.9	19.0	96.9	341.3	332.8	87	91	46.7	440.2	706.0	1 067.4	31.5
333	PRIMARY NONFERROUS METALS	587.2	110.7	476.5	1 952.0	1 819.4	(NA)	(NA)	58.6	626.9	1 705.5	5 964.2	292.2
3331	PRIMARY COPPER	(D)	(D)	(D)	756.6	700.0	(7)	(7)	17.2	173.2	487.8	2 771.1	119.7
3332	PRIMARY LEAD	(D)	(D)	(D)	186.0	162.3	(7)	(7)	2.8	26.5	128.7	460.9	5.7
3333	PRIMARY ZINC	39.8	5.3	34.6	154.1	176.6	83	67	6.3	59.3	121.6	376.4	9.8
3334	PRIMARY ALUMINUM	158.7	22.2	136.5	646.8	590.1	95	70	25.6	296.2	816.0	1 959.8	136.5
3339	PRIMARY NONFERROUS METALS, NEC	97.1	7.4	89.7	208.5	190.5	90	44	6.7	71.7	151.5	395.9	20.6
3341	SECONDARY NONFERROUS METALS	114.3	36.7	77.6	485.2	459.5	97	26	17.8	170.1	410.9	2 097.2	34.8
335	NONFERROUS ROLLING AND DRAWING	460.5	62.4	398.1	4 042.3	3 749.3	(NA)	(NA)	188.3	1 871.3	3 799.5	12 862.6	371.4
3351	COPPER ROLLING AND DRAWING	64.4	7.3	57.1	472.1	496.1	85	92	37.8	383.7	800.3	3 098.8	65.3
3353	ALUMINUM SHEET, PLATE, AND FOIL	157.7	19.0	138.7	1 625.2	1 325.2	92	99	31.3	370.7	692.3	2 685.2	90.3
3354	ALUMINUM EXTRUDED PRODUCTS	48.2	8.6	39.6	337.2	312.8	88	92	27.7	239.2	427.6	1 078.3	32.6
3355	ALUMINUM ROLLING AND DRAWING, NEC	16.1	2.2	13.9	169.5	183.6	91	65	4.6	48.0	57.3	343.4	9.2
3356	NONFERROUS ROLLING & DRAWING, NEC	34.3	5.7	28.6	477.5	483.7	94	93	18.1	184.2	374.1	1 244.6	24.3
3357	NONFERROUS WIREDRAWING, INSULATING	139.8	19.6	120.2	960.7	948.0	94	93	68.8	645.6	1 448.0	4 412.3	149.7
336	NONFERROUS FOUNDRIES	163.7	32.0	131.8	349.2	316.9	(NA)	(NA)	81.4	721.5	1 269.1	2 323.8	73.5
3361	ALUMINUM FOUNDRIES	121.1	23.2	97.9	205.4	174.7	87	92	45.7	417.9	718.3	1 269.9	38.8
3362	BRASS, BRONZE, COPPER FOUNDRIES	17.9	3.7	14.2	59.2	55.6	85	74	15.4	129.6	236.9	465.3	17.4
3369	NONFERROUS FOUNDRIES, NEC	24.7	5.1	19.6	84.7	86.6	85	77	20.3	174.0	314.0	588.6	17.3
339	MISC. PRIMARY METAL PRODUCTS	69.5	12.5	57.0	218.2	184.4	(NA)	(NA)	25.0	232.8	475.7	815.7	50.0
3398	METAL HEAT TREATING	42.2	9.2	33.0	69.0	48.5	(8)	(8)	17.2	157.3	310.6	467.4	23.1
3399	PRIMARY METAL PRODUCTS, NEC	27.3	3.3	24.0	149.2	135.9	94	70	7.9	75.5	165.0	348.3	26.9
34	FABRICATED METAL PRODUCTS	2 606.1	480.9	2 125.3	15 306.2	14 111.8	(NA)	(NA)	1 493.3	13 820.6	26 914.5	51 739.3	1 323.2
341	METAL CANS, SHIPPING CONTAINERS	208.7	25.7	183.0	1 168.0	1 020.9	(NA)	(NA)	78.6	839.6	2 004.6	4 972.1	146.5
3411	METAL CANS	176.9	19.6	157.3	1 032.9	889.0	96	98	68.5	740.7	1 815.8	4 510.8	138.1
3412	METAL BARRELS, DRUMS, AND PAILS	31.8	6.1	25.7	135.0	132.0	94	90	10.2	98.9	188.8	461.3	8.4
342	CUTLERY, HANDTOOLS AND HARDWARE	298.9	45.9	253.1	1 544.7	1 385.2	(NA)	(NA)	159.2	1 404.9	3 253.4	5 094.3	143.0
3421	CUTLERY	23.3	5.0	18.3	132.1	129.0	92	94	13.4	102.6	322.3	427.5	11.7
3423	HAND AND EDGE TOOLS, NEC	72.0	14.1	58.0	487.4	437.3	91	90	39.3	343.0	780.0	1 233.1	33.5
3425	HANDSAWS AND SAW BLADES	13.4	1.4	12.0	75.5	68.3	86	77	6.6	56.7	127.5	194.4	6.4
3429	HARDWARE, NEC	190.2	25.4	164.8	849.7	750.6	94	94	99.9	902.6	2 023.6	3 239.4	91.4
343	PLUMBING, HEATING, EXCEPT ELEC	74.1	14.8	59.2	567.9	525.8	(NA)	(NA)	60.7	523.8	1 131.6	2 136.8	51.7
3431	METAL SANITARY WARE	11.3	2.0	9.3	65.5	72.1	82	92	11.2	104.4	208.2	370.2	8.2
3432	PLUMBING FITTINGS AND BRASS GOODS	30.3	3.8	26.5	239.8	219.6	96	92	18.6	151.5	361.8	708.2	19.0
3433	HEATING EQUIPMENT, EXC. ELECTRIC	32.4	9.0	23.5	262.6	234.0	87	84	30.9	268.0	561.6	1 058.4	24.5
344	FABRICATED STRUC. METAL PRODS.	580.2	158.7	421.5	4 832.4	4 576.9	(NA)	(NA)	394.8	3 531.8	6 742.9	14 179.6	317.5
3441	FABRICATED STRUCTURAL METAL	144.1	40.3	103.9	1 220.9	1 132.6	92	92	104.3	975.5	1 730.7	3 920.1	74.7
3442	METAL DOORS, SASH, AND TRIM	70.7	18.9	51.8	519.0	438.8	93	91	70.7	520.8	1 003.7	2 077.6	52.1
3443	FABRICATED PLATEWORK, BOILER SHOP	179.8	52.6	127.3	1 566.9	1 576.3	89	92	93.0	893.5	1 758.7	3 339.0	77.3
3444	SHEET METALWORK	110.6	26.5	84.1	841.9	771.5	92	90	74.0	678.5	1 299.9	2 680.0	59.0
3446	ARCHITECTURAL METALWORK	22.2	6.6	15.7	167.3	156.7	90	86	20.9	175.4	311.8	573.7	17.0
3448	PREFABRICATED METAL BUILDINGS	32.2	8.8	23.4	304.6	296.1	94	95	12.5	109.4	275.9	608.9	11.3

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
3449	MISCELLANEOUS METALWORK.	308	412	185	16.3	211.5	10.2	20.2	115.7	436.9	1 330.8
345	SCREW MACHINE PROD., BOLTS, ETC. .	2 431	2 627	1 102	104.7	1 414.0	81.6	168.2	983.2	2 864.2	5 091.2
3451	SCREW MACHINE PRODUCTS	1 727	1 770	654	43.8	551.6	36.0	74.3	395.5	1 023.9	1 771.7
3452	BOLTS, NUTS, RIVETS, AND WASHERS . .	723	857	448	60.9	862.4	45.6	93.9	587.6	1 840.3	3 319.5
346	METAL FORGINGS AND STAMPINGS . . .	3 389	3 715	1 875	288.0	4 511.3	236.1	479.6	3 418.9	8 913.4	18 264.2
3462	IRON AND STEEL FORGINGS.	312	358	231	39.1	641.5	31.0	60.8	474.8	1 301.4	2 795.7
3463	NONFERROUS FORGINGS.	43	47	31	5.4	93.7	4.2	8.2	64.8	240.7	456.7
3465	AUTOMOTIVE STAMPINGS	495	591	432	132.4	2 446.0	112.5	236.8	1 956.6	4 654.5	9 739.2
3466	CROWNS AND CLOSURES.	42	56	43	7.9	104.8	6.5	12.6	80.2	265.4	536.9
3469	METAL STAMPINGS, NEC	2 544	2 663	1 138	103.2	1 225.4	82.0	161.2	842.5	2 451.5	4 735.7
347	METAL SERVICES, NEC.	4 880	5 095	1 373	93.5	1 008.5	77.1	153.5	706.3	1 962.9	3 456.3
3471	PLATING AND POLISHING.	3 344	3 447	904	61.2	634.8	51.2	101.3	446.1	1 181.8	1 848.5
3479	METAL COATING AND ALLIED SERVICES. .	1 556	1 648	469	32.3	373.7	25.9	52.2	260.2	781.1	1 607.7
348	ORDNANCE AND ACCESSORIES, NEC. . .	306	346	151	70.2	991.7	46.9	91.7	559.2	1 736.8	2 641.4
3482	SMALL ARMS AMMUNITION.	59	65	16	10.3	138.1	7.7	15.4	95.3	247.5	436.2
3483	AMMUNITION, EXC. SMALL ARMS, NEC . .	68	80	48	18.9	248.1	12.4	23.5	133.2	448.7	716.5
3484	SMALL ARMS	105	112	46	17.5	237.8	13.1	27.1	157.3	481.5	754.9
3489	ORDNANCE AND ACCESSORIES NEC	89	89	41	23.6	367.7	13.7	25.8	173.3	559.2	733.8
349	MISC. FABRICATED METAL PRODUCTS. .	5 780	6 373	2 328	279.4	3 555.8	208.2	406.1	2 318.1	7 854.9	14 752.6
3493	STEEL SPRINGS, EXCEPT WIRE	116	131	59	8.2	119.8	6.6	13.3	88.0	249.9	500.5
3494	VALVES AND PIPE FITTINGS	714	902	532	108.7	1 467.3	76.0	149.6	909.8	3 385.9	5 662.3
3495	WIRE SPRINGS	254	332	226	21.7	253.5	18.0	35.4	187.8	497.7	957.7
3496	MISC. FABRICATED WIRE PRODUCTS . . .	1 048	1 114	387	32.4	354.5	25.5	49.4	232.2	721.7	1 435.0
3497	METAL FOIL AND LEAF.	63	77	52	9.4	125.8	6.6	13.0	87.1	298.0	895.1
3498	FABRICATED PIPE AND FITTINGS	513	579	278	28.2	390.0	21.4	40.6	265.4	887.2	1 872.7
3499	FABRICATED METAL PRODUCTS, NEC . . .	3 142	3 238	794	70.8	844.7	54.1	104.8	547.8	1 814.5	3 429.2
35	MACHINERY, EXCEPT ELECTRICAL . .	44 974	48 200	12 446	2 083.3	30 557.5	1 413.8	2 803.0	18 298.4	67 222.5	122 187.7
351	ENGINES AND TURBINES	251	315	168	129.6	2 237.6	90.1	181.2	1 404.7	4 959.6	10 426.2
3511	TURBINES, TURBINE GENERATOR SETS . .	68	83	37	40.8	709.1	24.8	51.1	368.5	1 553.1	2 729.7
3519	INTERNAL COMBUSTION ENGINES, NEC . .	187	232	131	88.8	1 528.6	65.3	130.1	1 036.2	3 406.5	7 696.5
352	FARM AND GARDEN MACHINERY.	1 991	2 159	756	150.9	2 196.5	110.8	210.4	1 456.4	5 490.2	11 857.0
3523	FARM MACHINERY AND EQUIPMENT	1 868	2 004	664	131.3	1 971.9	96.2	182.7	1 313.3	4 854.4	10 281.7
3524	LAWN AND GARDEN EQUIPMENT.	137	155	92	19.6	224.6	14.7	27.7	143.1	635.8	1 575.3
353	CONSTRUCTION, RELATED MACHINERY. .	2 777	3 229	1 518	333.0	5 096.7	226.3	443.2	3 184.5	11 835.6	23 681.6
3531	CONSTRUCTION MACHINERY	807	922	446	155.3	2 547.1	111.2	212.7	1 708.1	5 744.3	12 628.7
3532	MINING MACHINERY	293	344	168	31.4	425.9	20.3	39.7	262.9	1 018.8	1 996.7
3533	OILFIELD MACHINERY	386	478	247	58.6	867.5	39.8	83.4	543.3	2 437.6	3 912.4
3534	ELEVATORS AND MOVING STAIRWAYS . . .	134	152	72	10.2	141.9	5.9	11.5	69.4	284.5	489.7
3535	CONVEYORS AND CONVEYING EQUIPMENT. .	572	616	294	32.9	476.5	19.2	38.5	226.6	1 018.9	1 897.9
3536	HOISTS, CRANES, AND MONORAILS. . . .	231	242	121	15.8	210.5	10.6	20.6	122.0	453.2	836.0
3537	INDUSTRIAL TRUCKS AND TRACTORS . . .	450	475	170	28.8	427.3	19.4	36.7	252.2	878.2	1 920.1
354	METALWORKING MACHINERY	10 164	10 630	2 680	297.8	4 513.9	217.8	447.4	2 963.1	8 746.7	13 283.0
3541	MACHINE TOOLS, METAL-CUTTING	874	919	307	59.5	951.0	37.3	76.6	542.2	1 871.0	2 819.1
3542	MACHINE TOOLS, METAL-FORMING	411	426	163	23.7	360.7	16.1	32.8	219.4	721.9	1 130.6
3544	SPECIAL DIES, TOOLS, JIGS, ETC . . .	7 033	7 152	1 426	105.6	1 706.3	86.3	183.8	1 260.4	2 786.9	3 901.3
3545	MACHINE TOOL ACCESSORIES	1 271	1 412	492	54.1	762.5	39.9	80.2	498.2	1 585.8	2 384.5
3546	POWER DRIVEN HANDTOOLS	99	124	71	27.7	325.7	20.0	38.5	210.4	931.9	1 623.2
3547	ROLLING MILL MACHINERY	58	63	38	7.9	128.2	5.4	10.4	78.4	286.9	507.4
3549	METALWORKING MACHINERY, NEC.	522	534	183	19.4	279.5	12.8	25.2	154.1	562.2	916.8
355	SPECIAL INDUSTRY MACHINERY	3 798	4 090	1 487	185.0	2 615.9	117.6	235.7	1 449.9	5 271.4	9 128.2
3551	FOOD PRODUCTS MACHINERY.	685	740	315	36.3	522.1	22.8	45.4	292.6	1 056.4	1 786.8
3552	TEXTILE MACHINERY.	600	639	217	26.0	300.8	18.3	36.3	185.3	540.0	951.0
3553	WOODWORKING MACHINERY.	291	301	105	10.3	131.2	7.4	14.7	81.9	317.8	585.6
3554	PAPER INDUSTRIES MACHINERY	193	213	103	16.4	247.5	9.3	18.8	123.8	464.9	826.9
3555	PRINTING TRADES MACHINERY.	520	595	199	25.5	369.2	15.6	31.7	192.9	793.6	1 350.9
3559	SPECIAL INDUSTRY MACHINERY, NEC. . .	1 548	1 602	548	70.6	1 045.1	44.1	88.7	573.4	2 098.7	3 627.0
356	GENERAL INDUSTRIAL MACHINERY . . .	4 464	4 947	1 806	313.5	4 451.1	212.4	420.6	2 712.4	9 672.6	16 542.0
3561	PUMPS AND PUMPING EQUIPMENT.	515	613	285	63.0	900.6	39.8	79.5	506.9	2 141.6	3 773.7
3562	BALL AND ROLLER BEARINGS	102	149	104	50.6	752.6	41.3	82.4	579.9	1 472.7	2 567.3
3563	AIR AND GAS COMPRESSORS.	148	175	103	32.0	465.6	19.1	38.2	255.2	1 145.5	2 075.6
3564	BLOWERS AND FANS	432	482	198	28.0	356.8	18.6	36.7	209.6	776.7	1 430.8
3565	INDUSTRIAL PATTERNS.	1 001	1 002	115	9.3	152.7	8.0	15.8	122.2	252.5	320.6
3566	SPEED CHANGERS, DRIVES, AND GEARS. .	307	327	162	25.3	365.4	17.6	35.0	226.7	803.1	1 222.3
3567	INDUSTRIAL FURNACES AND OVENS. . . .	311	327	137	15.2	209.4	9.3	17.9	107.4	469.3	746.3
3568	POWER TRANSMISSION EQUIPMENT, NEC. .	184	226	163	32.5	464.8	23.8	45.8	306.8	1 009.1	1 626.0
3569	GENERAL INDUSTRIAL MACHINERY, NEC. .	1 586	1 646	539	57.5	783.2	34.9	69.2	397.7	1 602.2	2 779.5
357	OFFICE AND COMPUTING MACHINES. . .	1 175	1 317	610	259.3	3 948.8	123.5	243.3	1 384.4	9 921.4	16 841.9
3573	ELECTRONIC COMPUTING EQUIPMENT . . .	808	932	435	192.7	3 004.3	85.5	172.4	978.4	7 623.5	12 923.6
3574	CALCULATING, ACCOUNTING MACHINES . .	58	64	31	17.1	220.7	10.4	18.1	92.9	391.3	850.0
3576	SCALES, BALANCES, EXC. LABORATORY. .	92	103	46	7.1	84.5	4.7	9.1	46.9	214.9	348.1
3579	OFFICE MACHINES, TYPEWRITERS, ETC. .	191	215	98	42.4	639.1	22.9	43.7	266.1	1 691.4	2 719.7
358	REFRIGERATION AND SERVICE MACH . .	1 922	2 114	837	191.5	2 516.4	138.4	270.7	1 637.4	5 962.6	12 416.1
3581	AUTOMATIC MERCHANDISING MACHINES . .	108	113	35	8.8	103.2	6.4	12.4	65.1	211.7	410.1
3582	COMMERCIAL LAUNDRY EQUIPMENT	90	94	38	4.6	54.4	3.3	6.4	35.6	117.3	220.3
3585	REFRIGERATION, HEATING EQUIPMENT . .	731	860	457	138.6	1 849.7	104.4	205.4	1 270.2	4 469.2	9 638.1
3586	MEASURING AND DISPENSING PUMPS . . .	57	59	30	7.4	97.3	5.1	9.7	57.9	218.0	375.7
3589	SERVICE INDUSTRY MACHINERY, NEC. . .	959	988	277	32.1	411.8	19.2	36.9	208.6	946.4	1 771.8
359	MISC. MACHINERY, EXC. ELEC	19 257	19 399	2 584	222.7	2 980.4	176.8	350.5	2 105.6	5 362.4	8 011.8
3592	CARBURETORS, PISTONS, RINGS, ETC . .	131	151	84	32.2	508.5	26.0	52.5	388.5	924.9	1 400.6
3599	MACHINERY, EXCEPT ELECTRICAL, NEC. .	19 137	19 248	2 500	190.5	2 471.8	150.8	298.0	1 717.1	4 437.6	6 611.2

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
3449	MISCELLANEOUS METALWORK.	20.5	5.2	15.3	211.8	204.8	91	78	19.5	178.8	362.2	980.4	26.2
345	SCREW MACHINE PROD., BOLTS, ETC. .	184.1	26.6	157.5	944.9	881.3	(NA)	(NA)	100.6	948.0	1 845.3	3 091.5	88.9
3451	SCREW MACHINE PRODUCTS	71.9	9.1	62.8	230.6	207.9	96	92	40.5	357.3	648.5	1 063.8	33.2
3452	BOLTS, NUTS, RIVETS, AND WASHERS . .	112.3	17.5	94.8	714.3	673.3	94	94	60.1	590.7	1 196.8	2 027.6	55.7
346	METAL FORGINGS AND STAMPINGS . . .	604.4	78.9	525.6	2 361.4	2 160.0	(NA)	(NA)	263.5	2 791.4	5 057.3	9 956.9	237.7
3462	IRON AND STEEL FORGINGS.	126.7	16.5	110.2	452.7	429.8	92	84	34.3	387.2	661.8	1 416.1	28.1
3463	NONFERROUS FORGINGS.	13.7	3.6	10.1	123.8	101.1	87	67	5.8	63.7	104.0	222.5	7.0
3465	AUTOMOTIVE STAMPINGS	292.2	25.1	267.1	948.3	872.8	92	91	123.3	1 485.4	2 663.8	5 286.0	117.5
3466	CROWNS AND CLOSURES.	17.1	2.0	15.1	121.0	99.2	95	86	8.1	74.1	166.7	343.5	8.3
3469	METAL STAMPINGS, NEC	154.7	31.6	123.0	715.7	657.2	88	88	92.0	781.0	1 461.0	2 688.8	76.7
347	METAL SERVICES, NEC.	121.1	22.2	98.8	287.2	251.6	(NA)	(NA)	82.1	624.2	1 120.3	1 736.3	64.2
3471	PLATING AND POLISHING.	73.2	14.7	58.4	128.3	112.5	(8)	(8)	54.6	403.1	741.2	1 034.5	40.2
3479	METAL COATING AND ALLIED SERVICES. .	47.9	7.5	40.4	159.0	139.2	(8)	(8)	27.6	221.1	379.2	701.8	24.0
348	ORDNANCE AND ACCESSORIES, NEC. . .	82.5	15.0	67.5	518.8	462.1	(NA)	(NA)	109.5	1 015.3	1 476.0	2 787.0	61.6
3482	SMALL ARMS AMMUNITION.	42.9	5.7	37.1	117.6	121.9	95	90	13.9	129.3	228.6	438.0	10.8
3483	AMMUNITION, EXC. SMALL ARMS, NEC . .	9.2	2.0	7.2	58.3	62.7	83	76	54.9	479.1	624.1	1 477.9	24.5
3484	SMALL ARMS	20.5	6.1	14.4	166.7	153.5	94	99	16.1	152.1	278.6	393.5	11.3
3489	ORDNANCE AND ACCESSORIES NEC	10.1	1.3	8.8	176.2	123.9	81	68	24.6	254.8	344.7	477.7	15.0
349	MISC. FABRICATED METAL PRODUCTS. .	452.0	93.0	359.1	3 080.9	2 847.1	(NA)	(NA)	244.3	2 141.7	4 283.0	7 784.8	212.2
3493	STEEL SPRINGS, EXCEPT WIRE	14.1	2.4	11.7	81.6	73.7	84	72	8.5	79.9	149.7	331.4	6.6
3494	VALVES AND PIPE FITTINGS	201.2	42.5	158.7	1 508.2	1 374.8	89	88	94.3	879.9	1 751.2	2 956.9	79.0
3495	WIRE SPRINGS	27.6	4.5	23.1	104.5	105.9	92	92	23.7	193.2	340.7	611.9	12.9
3496	MISC. FABRICATED WIRE PRODUCTS . . .	47.3	10.6	36.6	252.8	233.6	91	37	33.2	261.4	504.4	959.7	28.9
3497	METAL FOIL AND LEAF.	16.1	1.8	14.3	141.1	124.6	80	63	5.4	51.9	126.5	282.0	8.2
3498	FABRICATED PIPE AND FITTINGS	51.0	12.7	38.3	418.4	395.3	94	93	17.5	164.7	363.1	704.4	14.7
3499	FABRICATED METAL PRODUCTS, NEC . . .	94.8	18.5	76.3	574.3	539.2	89	83	61.8	510.7	1 047.4	1 938.6	61.8
35	MACHINERY, EXCEPT ELECTRICAL . .	4 402.4	948.7	3 453.7	27 170.9	25 153.3	(NA)	(NA)	1 827.7	18 523.3	37 562.9	65 820.7	1 906.3
351	ENGINES AND TURBINES	329.9	44.5	285.4	2 169.6	1 909.0	(NA)	(NA)	116.0	1 320.3	2 899.5	5 507.4	185.5
3511	TURBINES, TURBINE GENERATOR SETS . .	44.1	5.4	38.8	827.6	775.5	92	82	46.2	548.9	1 225.3	2 189.0	93.5
3519	INTERNAL COMBUSTION ENGINES, NEC . .	285.8	39.1	246.7	1 342.0	1 133.5	91	88	69.9	771.4	1 674.2	3 318.4	92.0
352	FARM AND GARDEN MACHINERY.	370.5	75.4	295.1	2 464.1	2 441.7	(NA)	(NA)	125.3	1 211.2	2 701.2	5 590.4	163.6
3523	FARM MACHINERY AND EQUIPMENT	341.9	70.5	271.3	2 083.4	2 088.8	92	95	104.6	1 045.7	2 248.0	4 531.4	116.0
3524	LAWN AND GARDEN EQUIPMENT.	28.6	4.9	23.8	380.7	352.9	92	82	20.7	165.5	453.2	1 059.1	47.6
353	CONSTRUCTION, RELATED MACHINERY. .	932.4	268.4	664.0	6 156.5	6 095.7	(NA)	(NA)	275.4	2 855.7	5 962.2	11 089.5	282.1
3531	CONSTRUCTION MACHINERY	498.3	151.4	346.8	3 142.3	3 171.8	91	95	133.8	1 460.2	3 130.7	6 091.0	159.5
3532	MINING MACHINERY	67.0	23.8	43.2	646.1	603.7	88	86	21.3	197.6	393.2	771.2	13.4
3533	OILFIELD MACHINERY	257.5	67.9	189.7	1 212.5	1 216.0	88	95	35.9	357.5	788.6	1 213.0	54.7
3534	ELEVATORS AND MOVING STAIRWAYS . . .	8.8	1.8	7.1	119.1	123.0	96	93	15.0	144.5	310.2	483.6	7.8
3535	CONVEYORS AND CONVEYING EQUIPMENT. .	34.7	9.0	25.7	363.8	329.9	90	87	27.2	275.5	540.1	968.0	13.2
3536	HOISTS, CRANES, AND MONORAILS. . . .	17.9	4.5	13.3	203.6	196.6	87	76	16.3	160.9	274.7	527.3	13.8
3537	INDUSTRIAL TRUCKS AND TRACTORS . . .	48.3	10.0	38.3	469.1	454.7	94	95	25.8	259.5	524.7	1 035.4	19.7
354	METALWORKING MACHINERY	438.6	79.1	359.5	2 848.1	2 510.1	(NA)	(NA)	268.1	2 858.6	4 901.7	7 267.0	218.8
3541	MACHINE TOOLS, METAL-CUTTING	82.2	15.4	66.8	878.4	741.5	87	92	52.5	573.8	901.7	1 418.1	35.2
3542	MACHINE TOOLS, METAL-FORMING	24.7	3.2	21.5	359.6	317.2	90	87	24.1	265.4	417.7	696.3	17.5
3544	SPECIAL DIES, TOOLS, JIGS, ETC . . .	175.7	29.3	146.4	449.9	378.6	94	79	97.8	1 113.8	1 797.4	2 423.7	97.0
3545	MACHINE TOOL ACCESSORIES	77.2	13.8	63.4	468.5	413.3	89	88	46.7	456.6	876.1	1 243.4	30.2
3546	POWER DRIVEN HANDTOOLS	39.0	7.4	31.6	326.0	311.4	91	90	23.1	202.3	434.5	730.5	20.3
3547	ROLLING MILL MACHINERY	9.1	.6	8.4	131.8	154.5	78	86	10.4	115.2	206.4	327.8	6.3
3549	METALWORKING MACHINERY, NEC.	30.7	9.3	21.5	233.8	193.7	88	82	13.6	131.5	267.9	427.3	12.3
355	SPECIAL INDUSTRY MACHINERY	243.6	58.4	185.2	2 309.2	2 172.4	(NA)	(NA)	190.1	1 853.9	3 731.9	6 207.2	160.0
3551	FOOD PRODUCTS MACHINERY.	46.9	9.0	37.9	499.4	453.4	90	92	31.9	315.9	605.2	1 000.1	21.8
3552	TEXTILE MACHINERY.	32.2	7.9	24.3	233.5	256.7	93	94	32.7	271.0	487.9	823.7	27.6
3553	WOODWORKING MACHINERY.	13.8	3.0	10.8	111.6	100.6	94	95	13.7	123.9	285.1	495.2	12.4
3554	PAPER INDUSTRIES MACHINERY	17.2	4.5	12.6	220.2	225.0	84	90	15.3	159.0	254.0	447.8	8.3
3555	PRINTING TRADES MACHINERY.	46.8	14.0	32.7	355.4	316.7	97	92	23.9	249.4	503.6	823.5	16.1
3559	SPECIAL INDUSTRY MACHINERY, NEC. . .	86.8	20.0	66.8	889.2	820.0	88	85	72.6	734.7	1 596.1	2 616.9	73.8
356	GENERAL INDUSTRIAL MACHINERY . . .	552.7	116.8	435.9	4 013.9	3 698.0	(NA)	(NA)	262.0	2 585.4	5 019.7	8 433.7	232.1
3561	PUMPS AND PUMPING EQUIPMENT.	123.5	26.0	97.5	1 024.0	925.1	88	88	55.5	532.9	1 095.6	1 917.3	56.9
3562	BALL AND ROLLER BEARINGS	132.9	21.6	111.3	621.7	569.0	96	98	50.9	525.5	931.3	1 530.5	51.3
3563	AIR AND GAS COMPRESSORS.	55.8	10.8	45.0	610.9	589.0	88	89	22.9	226.6	467.5	858.4	15.3
3564	BLOWERS AND FANS	37.5	11.2	26.3	242.9	232.6	89	87	23.5	216.1	468.8	805.3	22.2
3565	INDUSTRIAL PATTERNS.	11.1	2.1	9.0	25.2	20.6	97	75	8.5	103.1	161.0	198.0	5.3
3566	SPEED CHANGERS, DRIVES, AND GEARS. .	48.5	11.6	36.9	297.8	283.6	87	84	22.5	224.2	409.0	632.7	21.8
3567	INDUSTRIAL FURNACES AND OVENS. . . .	13.4	2.6	10.8	151.4	118.1	91	90	13.6	138.5	244.3	443.2	7.5
3568	POWER TRANSMISSION EQUIPMENT, NEC. .	50.3	8.1	42.3	418.8	381.8	82	74	27.7	266.5	544.4	876.4	20.4
3569	GENERAL INDUSTRIAL MACHINERY, NEC. .	79.6	22.8	56.8	621.2	578.2	88	86	37.0	351.8	697.7	1 171.9	31.3
357	OFFICE AND COMPUTING MACHINES. . .	826.1	166.1	660.1	3 887.3	3 331.9	(NA)	(NA)	208.4	2 277.3	4 904.5	8 604.9	287.0
3573	ELECTRONIC COMPUTING EQUIPMENT . . .	651.5	107.3	544.2	3 007.9	2 526.0	94	91	144.8	1 668.3	3 497.6	6 471.2	212.8
3574	CALCULATING, ACCOUNTING MACHINES . .	56.3	26.2	30.2	218.2	222.0	84	77	22.5	207.2	407.0	637.1	19.0
3576	SCALES, BALANCES, EXC. LABORATORY. .	6.8	1.5	5.4	85.7	79.6	96	99	6.7	59.3	129.7	200.4	5.7
3579	OFFICE MACHINES, TYPEWRITERS, ETC. .	111.5	31.1	80.4	575.3	504.2	76	91	34.5	342.5	870.1	1 296.2	49.6
358	REFRIGERATION AND SERVICE MACH . .	287.9	55.1	232.8	2 259.5	2 054.1	(NA)	(NA)	197.9	1 863.9	4 426.7	8 711.0	228.2
3581	AUTOMATIC MERCHANDISING MACHINES . .	7.9	1.6	6.3	109.6	83.2	94	93	10.5	83.6	183.4	324.4	5.6
3582	COMMERCIAL LAUNDRY EQUIPMENT	2.2	.4	1.9	53.5	49.1	90	81	4.8	42.2	88.2	157.0	1.2
3585	REFRIGERATION, HEATING EQUIPMENT . .	233.0	42.2	190.8	1 632.7	1 507.9	89	95	150.8	1 442.1	3 517.4	7 083.5	201.2
3586	MEASURING AND DISPENSING PUMPS . . .	6.2	1.1	5.2	97.9	89.5	61	82	7.2	67.3	134.1	232.3	4.5
3589	SERVICE INDUSTRY MACHINERY, NEC. . .	38.5	9.8	28.7	365.9	324.4	91	90	24.4	228.8	503.6	913.8	15.7
359	MISC. MACHINERY, EXC. ELEC	420.8	85.1	335.7	1 062.6	940.4	(NA)	(NA)	184.4	1 697.0	3 015.5	4 409.5	149.2
3592	CARBURETORS, PISTONS, RINGS, ETC . .	79.9	16.7	63.3	240.0	202.7	82	87	26.7	272.3	500.0	744.3	27.1
3599	MACHINERY, EXCEPT ELECTRICAL, NEC. .	340.9	68.4	272.5	822.7	737.6	96	94	157.8	1 424.7	2 515.5	3 665.2	122.2

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
36	ELECTRIC, ELECTRONIC EQUIP . . .	12 554	14 973	6 338	1 723.1	22 544.2	1 191.4	2 309.2	12 951.6	50 365.7	88 433.1
361	ELECTRIC DISTRIBUTING EQUIPMENT. .	753	947	459	115.3	1 431.3	84.9	162.3	909.9	3 335.9	5 771.7
3612	TRANSFORMERS	229	279	143	43.3	529.6	32.8	62.5	349.8	1 170.0	2 209.1
3613	SWITCHGEAR, SWITCHBOARD APPARATUS. .	542	668	316	72.0	901.7	52.1	99.9	560.1	2 165.9	3 562.6
362	ELECTRICAL INDUSTRIAL APPARATUS. .	1 407	1 646	819	198.4	2 542.6	142.0	278.8	1 572.1	5 614.2	9 591.4
3621	MOTORS AND GENERATORS.	343	447	299	96.9	1 177.6	74.2	145.8	802.6	2 609.8	4 462.7
3622	INDUSTRIAL CONTROLS.	676	726	283	55.4	726.6	35.3	69.0	380.1	1 602.2	2 511.4
3623	WELDING APPARATUS, ELECTRIC. . . .	160	176	87	17.5	285.7	11.3	23.0	165.1	582.7	1 189.6
3624	CARBON AND GRAPHITE PRODUCTS . . .	58	74	48	12.1	164.1	9.0	17.7	110.9	408.4	735.2
3629	ELEC. INDUSTRIAL APPARATUS, NEC. . .	213	223	102	16.5	188.6	12.2	23.4	113.4	411.0	692.4
363	HOUSEHOLD APPLIANCES	528	666	342	162.3	1 898.1	128.7	243.1	1 352.1	5 276.2	10 736.5
3631	HOUSEHOLD COOKING EQUIPMENT. . . .	84	96	58	25.4	289.1	19.1	36.8	197.9	[9]784.1	[9]1 707.2
3632	HOUSEHOLD REFRIGERATORS, FREEZERS. .	33	42	25	35.8	468.6	29.8	56.9	358.0	1 166.1	2 576.6
3633	HOUSEHOLD LAUNDRY EQUIPMENT. . . .	21	31	24	19.4	262.4	15.9	29.4	202.4	844.7	1 792.8
3634	ELECTRIC HOUSEWARES AND FANS . . .	239	291	148	47.3	458.7	37.6	71.4	305.0	1 365.7	2 531.2
3635	HOUSEHOLD VACUUM CLEANERS.	32	35	22	10.4	116.6	7.3	12.9	78.9	378.8	639.9
3636	SEWING MACHINES.	86	91	25	8.2	107.0	6.1	10.6	66.8	208.9	304.9
3639	HOUSEHOLD APPLIANCES, NEC.	65	80	40	15.7	195.6	12.8	25.1	143.2	527.9	1 184.0
364	ELEC. LIGHTING, WIRING EQUIP . . .	1 762	2 009	913	165.0	1 925.4	127.2	244.6	1 292.1	4 741.2	8 357.0
3641	ELECTRIC LAMPS	128	167	64	28.7	322.4	25.3	47.5	266.3	1 089.2	1 651.4
3643	CURRENT-CARRYING WIRING DEVICES. .	361	413	198	43.9	480.3	33.6	66.2	312.1	1 100.1	1 795.2
3644	NONCURRENT-CARRYING WIR'G DEVICES. .	174	202	123	25.8	330.1	18.4	35.9	210.9	744.4	1 421.8
3645	RESIDENTIAL LIGHTING FIXTURES. . .	675	710	244	23.7	229.5	18.2	33.4	139.4	494.2	986.6
3646	COMMERCIAL LIGHTING FIXTURES . . .	192	218	122	15.6	169.1	11.1	20.6	98.8	434.7	922.7
3647	VEHICULAR LIGHTING EQUIPMENT . . .	70	75	43	14.5	246.0	11.4	23.3	178.8	536.0	908.5
3648	LIGHTING EQUIPMENT, NEC.	211	224	119	12.8	148.0	9.1	17.7	85.8	342.6	671.0
365	RADIO, TV RECEIVING EQUIPMENT. . .	1 223	1 290	325	97.7	1 097.0	75.4	143.8	740.0	3 078.1	6 913.2
3651	RADIO AND TV RECEIVING SETS. . . .	546	581	192	74.6	852.4	57.6	106.6	570.0	2 350.9	5 731.6
3652	PHONO. RECORDS, PRERECORDED TAPE . .	679	709	133	23.1	244.6	17.8	37.2	170.0	727.3	1 181.7
366	COMMUNICATION EQUIPMENT.	2 068	2 385	1 126	458.5	6 995.0	259.6	499.5	3 226.2	14 130.0	22 744.2
3661	TELEPHONE AND TELEGRAPH APPARATUS. .	208	264	154	124.4	1 818.0	87.1	164.2	1 125.9	4 192.0	7 858.3
3662	RADIO AND TV COMMUNICATION EQUIP . .	1 673	2 121	972	334.1	5 177.0	172.4	335.2	2 100.3	9 938.0	14 886.0
367	ELECTRONIC COMPONENTS, ACCESS. . .	4 019	4 455	1 671	373.5	4 556.5	257.9	508.7	2 457.4	9 259.6	15 389.6
3671	ELECTRON TUBES, RECEIVING TYPE . . .	125	146	60	36.7	514.1	27.5	53.7	324.5	909.6	1 581.7
3674	SEMICONDUCTORS, RELATED DEVICES. . .	499	545	219	114.0	1 601.1	63.5	126.5	670.3	3 414.0	5 327.1
3675	ELECTRONIC CAPACITORS.	86	118	97	28.9	260.5	23.4	45.7	179.0	486.1	742.3
3676	ELECTRONIC RESISTORS	77	101	80	21.3	210.9	15.9	32.4	130.6	401.0	578.3
3677	ELECTRONIC COILS AND TRANSFORMERS. .	276	294	194	20.7	166.6	17.1	31.8	113.1	289.1	506.4
3678	ELECTRONIC CONNECTORS.	106	133	107	26.0	303.6	19.1	37.6	185.1	754.2	1 104.6
3679	ELECTRONIC COMPONENTS, NEC	3 005	3 118	914	125.9	1 499.7	91.4	181.0	854.7	3 005.7	5 549.2
369	MISC. ELEC. EQUIPMENT, SUPPLIES. .	1 340	1 575	683	152.4	2 098.3	115.7	228.4	1 401.8	4 930.4	8 929.5
3691	STORAGE BATTERIES.	134	218	134	25.9	358.7	21.1	43.4	276.4	927.8	1 982.5
3692	PRIMARY BATTERIES, DRY AND WET . . .	41	58	33	11.0	118.2	9.0	18.0	87.4	343.2	666.1
3693	X-RAY APPARATUS AND TUBES.	212	243	126	30.9	467.6	17.1	33.3	195.5	1 231.9	1 884.7
3694	ENGINE ELECTRICAL EQUIPMENT. . . .	372	409	181	63.8	948.4	51.8	102.6	708.6	2 041.3	3 647.2
3699	ELECTRICAL EQUIP., SUPPLIES, NEC . .	612	647	209	20.7	205.3	16.7	31.1	133.9	386.2	749.0
37	TRANSPORTATION EQUIPMENT	8 934	10 176	3 653	1 768.2	30 673.5	1 284.4	2 612.7	20 314.3	64 291.1	166 954.0
371	MOTOR VEHICLES AND EQUIPMENT . . .	3 591	4 234	1 708	876.3	16 037.7	727.6	1 524.2	12 682.4	37 023.1	117 746.5
3711	MOTOR VEHICLES AND CAR BODIES. . . .	254	322	119	343.6	7 077.6	289.9	620.4	5 724.9	18 723.7	76 517.8
3713	TRUCK AND BUS BODIES	770	820	313	34.8	428.6	27.4	53.9	307.6	946.3	2 003.3
3714	MOTOR VEHICLE PARTS, ACCESSORIES . .	2 194	2 623	997	450.7	8 004.0	372.5	777.2	6 284.9	16 263.8	35 750.8
3715	TRUCK TRAILERS	316	353	165	28.1	322.0	22.5	43.1	229.9	645.9	1 910.1
3716	MOTOR HOMES.	80	116	114	19.2	205.4	15.4	29.6	135.1	443.3	1 564.5
372	AIRCRAFT AND PARTS	1 027	1 173	549	430.8	7 620.5	240.1	475.0	3 563.5	14 731.7	25 867.1
3721	AIRCRAFT	151	176	74	222.7	3 975.9	119.0	232.7	1 765.2	8 134.1	14 834.2
3724	AIRCRAFT ENGINES AND ENGINE PARTS. .	226	269	177	106.1	1 939.4	62.4	128.7	970.0	3 599.1	6 272.3
3728	AIRCRAFT EQUIPMENT, NEC.	681	728	298	102.0	1 705.2	58.7	113.7	828.3	2 998.4	4 760.6
373	SHIP, BOAT BUILDING, REPAIRING . .	2 692	2 795	736	220.2	2 939.8	175.5	345.6	2 132.1	4 681.4	8 317.8
3731	SHIP BUILDING AND REPAIRING. . . .	542	605	314	176.4	2 494.0	139.9	277.2	1 807.4	3 825.0	6 495.1
3732	BOAT BUILDING AND REPAIRING. . . .	2 148	2 190	422	43.8	445.8	35.6	68.4	324.7	856.3	1 822.6
3743	RAILROAD EQUIPMENT	145	201	118	56.3	888.6	42.6	79.4	619.9	1 882.8	4 278.3
3751	MOTORCYCLES, BICYCLES, AND PARTS . .	343	350	63	15.6	168.9	13.3	24.6	129.9	369.8	1 007.6
376	GUIDED MISSILES, SPACE VEHICLES. .	74	109	86	119.8	2 427.8	46.2	90.2	770.6	4 421.9	6 599.3
3761	GUIDED MISSILES, SPACE VEHICLES. . .	20	40	37	94.0	1 931.5	35.2	67.0	603.8	[2]3 564.8	[2]5 314.4
3764	SPACE PROPULSION UNITS AND PARTS . .	18	25	24	18.6	356.6	7.1	14.9	111.5	620.7	945.5
3769	SPACE VEHICLE EQUIPMENT, NEC	41	42	25	7.2	139.2	3.9	8.3	55.3	236.3	339.4
379	MISC. TRANSPORTATION EQUIPMENT . .	1 206	1 314	393	49.1	590.7	39.1	73.8	415.9	1 180.5	3 137.5
3792	TRAVEL TRAILERS AND CAMPERS. . . .	775	861	266	26.3	275.7	21.8	40.7	197.1	510.3	1 582.4
3795	TANKS AND TANK COMPONENTS.	20	24	18	12.4	208.5	10.0	19.8	156.2	437.6	934.2
3799	TRANSPORTATION EQUIPMENT, NEC. . . .	408	429	109	10.3	106.6	7.4	13.3	62.6	232.7	620.9
38	INSTRUMENTS, RELATED PRODUCTS. .	6 616	7 481	2 538	559.1	7 520.4	347.2	677.9	3 743.2	18 762.0	28 897.8
3811	ENGINEERING, SCIENTIFIC INSTRU . . .	740	786	279	42.3	584.4	24.7	48.7	280.7	1 287.2	1 926.7
382	MEASURING, CONTROLLING DEVICES . .	1 847	2 079	849	200.1	2 665.8	121.4	237.6	1 288.4	5 242.3	7 910.3
3822	ENVIRONMENTAL CONTROLS	182	201	91	39.0	450.3	30.6	57.9	315.6	859.6	1 358.7
3823	PROCESS CONTROL INSTRUMENTS.	383	426	207	46.5	664.8	23.4	47.0	265.9	1 399.4	2 022.0
3824	FLUID METERS AND COUNTING DEVICES. .	100	111	62	15.9	197.6	11.2	22.5	118.0	429.0	650.4
3825	INSTRU. TO MEASURE ELECTRICITY . . .	622	671	279	66.5	889.1	40.4	78.3	414.5	1 807.7	2 761.0
3829	MEASUR'G, CONTROL'G DEVICES, NEC . .	649	670	210	32.3	464.0	15.8	31.8	174.5	746.6	1 118.1

See footnotes at end of table.

Table 3. **Selected Statistics by Major Industry Group and Industry: 1977 and 1972**—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
36	ELECTRIC, ELECTRONIC EQUIP . . .	2 866.5	519.9	2 346.6	16 058.7	14 273.0	(NA)	(NA)	1 661.1	15 189.0	30 578.5	53 394.3	1 417.5
361	ELECTRIC DISTRIBUTING EQUIPMENT. .	141.2	24.7	116.5	1 039.6	944.2	(NA)	(NA)	116.0	1 040.0	2 060.3	3 585.4	63.7
3612	TRANSFORMERS	67.2	8.7	58.5	385.8	344.1	95	97	46.8	420.2	757.3	1 461.9	26.8
3613	SWITCHGEAR, SWITCHBOARD APPARATUS. .	73.9	16.0	58.0	653.8	600.1	91	91	69.2	619.8	1 303.0	2 123.5	36.9
362	ELECTRICAL INDUSTRIAL APPARATUS. .	311.0	64.5	246.5	2 002.1	1 791.4	(NA)	(NA)	188.0	1 665.1	3 217.9	5 402.3	148.3
3621	MOTORS AND GENERATORS.	162.6	28.7	133.8	771.4	678.0	92	80	90.3	764.4	1 475.2	2 501.7	58.9
3622	INDUSTRIAL CONTROLS.	57.5	12.8	44.7	616.1	563.9	87	86	51.1	465.6	908.4	1 424.1	46.8
3623	WELDING APPARATUS, ELECTRIC. . . .	38.7	14.5	24.1	258.8	226.2	86	94	15.5	173.9	353.5	659.6	11.4
3624	CARBON AND GRAPHITE PRODUCTS . . .	35.4	4.6	30.8	215.9	200.0	94	93	11.3	99.6	217.4	377.4	20.2
3629	ELEC. INDUSTRIAL APPARATUS, NEC. . .	16.8	3.8	13.0	140.0	123.3	87	81	20.2	165.0	270.0	449.4	11.2
363	HOUSEHOLD APPLIANCES	207.0	42.4	164.6	1 674.7	1 524.3	(NA)	(NA)	163.0	1 369.2	3 563.7	6 940.3	151.8
3631	HOUSEHOLD COOKING EQUIPMENT. . . .	36.1	8.9	27.1	303.8	283.7	92	80	23.3	205.7	412.0	939.8	25.5
3632	HOUSEHOLD REFRIGERATORS, FREEZERS. .	46.9	10.7	36.2	399.1	352.1	77	98	34.1	305.3	790.8	1 719.7	25.5
3633	HOUSEHOLD LAUNDRY EQUIPMENT. . . .	27.3	7.6	19.7	170.6	162.1	87	90	23.6	223.1	684.7	1 356.5	31.0
3634	ELECTRIC HOUSEWARES AND FANS . . .	47.8	8.3	39.5	429.5	409.2	87	90	51.3	357.5	909.2	1 613.3	32.6
3635	HOUSEHOLD VACUUM CLEANERS.	16.2	.7	15.5	85.2	81.0	(D)	81	11.2	98.7	299.5	467.7	9.7
3636	SEWING MACHINES.	8.1	.8	7.2	122.3	103.6	(D)	(D)	5.3	54.6	124.6	159.6	9.3
3639	HOUSEHOLD APPLIANCES, NEC.	24.6	5.4	19.2	164.2	132.6	93	79	14.0	123.5	341.4	681.9	18.3
364	ELEC. LIGHTING, WIRING EQUIP . . .	217.1	36.9	180.3	1 414.7	1 267.1	(NA)	(NA)	177.1	1 415.7	3 276.8	5 650.8	159.7
3641	ELECTRIC LAMPS	36.6	5.9	30.7	121.4	104.3	97	98	31.5	239.7	724.4	1 095.7	31.1
3643	CURRENT-CARRYING WIRING DEVICES. . .	55.8	10.3	45.5	341.5	284.7	84	79	50.4	382.5	792.1	1 255.9	53.7
3644	NONCURRENT-CARRYING WIR'G DEVICES. .	32.8	9.4	23.4	350.5	335.3	82	83	25.7	217.0	490.8	886.4	25.2
3645	RESIDENTIAL LIGHTING FIXTURES. . . .	11.8	2.6	9.2	193.2	183.1	95	92	26.5	189.3	390.2	767.2	13.7
3646	COMMERCIAL LIGHTING FIXTURES	18.0	3.5	14.6	182.3	162.5	90	86	18.8	148.3	350.4	718.7	13.7
3647	VEHICULAR LIGHTING EQUIPMENT	46.3	2.5	43.8	97.1	78.2	68	94	13.6	142.1	299.8	499.8	7.2
3648	LIGHTING EQUIPMENT, NEC.	15.8	2.8	13.0	128.6	118.8	85	81	12.7	107.9	254.3	466.5	16.6
365	RADIO, TV RECEIVING EQUIPMENT. . .	135.7	31.4	104.3	956.2	903.6	(NA)	(NA)	106.9	797.9	2 183.4	5 007.8	75.5
3651	RADIO AND TV RECEIVING SETS.	105.8	26.4	79.4	835.0	794.8	94	98	86.5	651.4	1 807.8	4 440.1	58.6
3652	PHONO. RECORDS, PRERECORDED TAPE . .	29.8	5.0	24.8	121.3	108.8	99	99	20.3	146.5	375.6	567.7	16.9
366	COMMUNICATION EQUIPMENT.	688.7	118.5	570.2	4 662.0	4 110.5	(NA)	(NA)	453.6	4 912.1	8 453.1	13 665.0	381.4
3661	TELEPHONE AND TELEGRAPH APPARATUS. .	217.3	17.1	200.2	1 503.3	1 220.2	94	97	134.4	1 323.0	2 650.1	4 524.7	169.2
3662	RADIO AND TV COMMUNICATION EQUIP . .	471.4	101.4	370.0	3 158.7	2 890.3	92	92	319.2	3 589.1	5 803.1	9 140.2	212.2
367	ELECTRONIC COMPONENTS, ACCESS. . .	782.6	126.3	656.3	2 773.3	2 445.6	(NA)	(NA)	335.8	2 869.3	5 305.8	8 825.9	344.4
3671	ELECTRON TUBES, RECEIVING TYPE . . .	52.6	15.2	37.4	254.7	231.1	78	93	11.4	87.7	173.8	230.4	1.8
3674	SEMICONDUCTORS, RELATED DEVICES. . .	409.0	60.8	348.2	909.5	819.3	93	94	97.6	953.1	1 735.1	2 704.8	170.5
3675	ELECTRONIC CAPACITORS.	34.0	6.7	27.3	152.4	135.8	92	91	27.6	169.2	298.6	445.8	13.4
3676	ELECTRONIC RESISTORS	25.1	2.7	22.4	104.2	93.7	87	81	20.5	144.5	263.5	372.2	10.4
3677	ELECTRONIC COILS AND TRANSFORMERS. .	9.2	2.1	7.1	74.5	73.2	91	75	24.2	147.8	228.7	377.8	9.9
3678	ELECTRONIC CONNECTORS.	40.4	3.9	36.6	234.5	204.5	78	86	18.1	141.2	345.6	483.3	12.2
3679	ELECTRONIC COMPONENTS, NEC	212.3	34.9	177.4	1 043.4	888.0	79	74	100.5	846.4	1 577.2	3 046.6	86.1
369	MISC. ELEC. EQUIPMENT, SUPPLIES. .	383.2	75.3	308.0	1 536.1	1 286.3	(NA)	(NA)	120.4	1 121.4	2 497.6	4 315.0	93.5
3691	STORAGE BATTERIES.	122.2	31.6	90.7	292.9	239.4	97	99	22.1	209.3	477.8	968.6	30.8
3692	PRIMARY BATTERIES, DRY AND WET . . .	35.4	5.8	29.6	100.1	90.2	96	97	8.4	64.6	221.6	348.1	7.2
3693	X-RAY APPARATUS AND TUBES.	63.4	13.1	50.3	542.3	412.6	98	92	12.1	120.9	311.3	443.7	8.1
3694	ENGINE ELECTRICAL EQUIPMENT.	146.0	21.6	124.3	488.3	442.1	81	89	57.9	591.3	1 212.6	2 035.0	30.8
3699	ELECTRICAL EQUIP., SUPPLIES, NEC . .	16.2	3.1	13.1	112.4	102.1	94	77	19.3	130.0	263.9	501.8	16.0
37	TRANSPORTATION EQUIPMENT	4 670.9	695.6	3 975.3	22 240.5	20 745.1	(NA)	(NA)	1 719.0	19 880.0	39 799.4	94 704.9	2 660.2
371	MOTOR VEHICLES AND EQUIPMENT . . .	3 636.1	455.0	3 181.2	9 062.6	7 826.8	(NA)	(NA)	807.5	9 460.5	22 056.2	63 921.4	2 093.2
3711	MOTOR VEHICLES AND CAR BODIES. . . .	1 706.1	229.1	1 477.1	4 010.8	3 325.8	95	99	339.2	4 299.5	11 782.5	42 905.6	917.2
3713	TRUCK AND BUS BODIES	44.2	11.2	33.0	352.1	306.0	94	93	42.6	353.8	659.7	1 564.4	48.3
3714	MOTOR VEHICLE PARTS, ACCESSORIES . .	1 833.2	189.9	1 643.3	4 124.1	3 699.6	94	87	400.9	4 601.5	9 164.7	18 333.5	1 113.1
3715	TRUCK TRAILERS	36.2	15.8	20.3	355.0	283.0	94	96	24.7	205.6	449.3	1 117.9	14.6
3716	MOTOR HOMES.	16.4	8.9	7.5	220.6	212.5	92	94	-	-	-	-	-
372	AIRCRAFT AND PARTS	508.3	89.8	418.5	9 301.8	9 166.0	(NA)	(NA)	438.7	5 281.7	9 123.6	15 451.4	169.0
3721	AIRCRAFT	202.4	40.2	162.2	6 618.5	6 550.7	83	98	231.8	2 867.1	5 083.0	8 779.3	57.1
3724	AIRCRAFT ENGINES AND ENGINE PARTS. .	174.9	25.4	149.5	1 440.2	1 360.2	81	95	104.7	1 256.6	1 991.7	3 640.2	73.0
3728	AIRCRAFT EQUIPMENT, NEC.	131.1	24.3	106.8	1 243.1	1 255.2	72	57	102.2	1 158.1	2 048.9	3 031.9	38.9
373	SHIP, BOAT BUILDING, REPAIRING . .	203.6	82.7	120.9	1 410.6	1 404.9	(NA)	(NA)	185.2	1 703.6	2 398.2	4 329.2	179.1
3731	SHIP BUILDING AND REPAIRING. . . .	161.3	68.0	93.3	1 072.5	1 098.5	97	99	144.6	1 422.3	1 881.3	3 281.0	142.0
3732	BOAT BUILDING AND REPAIRING. . . .	42.3	14.7	27.6	338.0	306.3	98	96	40.6	281.3	516.8	1 048.2	37.2
3743	RAILROAD EQUIPMENT	80.4	16.6	63.8	850.6	822.8	91	94	50.8	529.1	1 113.3	2 446.2	55.3
3751	MOTORCYCLES, BICYCLES, AND PARTS . .	24.1	6.0	18.1	226.5	182.1	84	97	17.6	139.6	315.2	659.5	16.0
376	GUIDED MISSILES, SPACE VEHICLES. .	164.2	27.7	136.5	797.6	850.9	(NA)	(NA)	160.0	2 317.1	3 969.2	5 628.2	92.3
3761	GUIDED MISSILES, SPACE VEHICLES. . .	125.6	21.8	103.8	600.2	653.0	87	91	118.4	1 751.5	2 948.7	4 123.7	62.9
3764	SPACE PROPULSION UNITS AND PARTS . .	25.3	5.0	20.3	167.5	175.8	92	88	20.8	276.2	506.6	716.3	18.4
3769	SPACE VEHICLE EQUIPMENT, NEC	13.3	.8	12.5	29.8	22.1	85	(D)	20.9	289.3	513.9	788.2	11.0
379	MISC. TRANSPORTATION EQUIPMENT . .	54.1	17.7	36.4	590.8	492.4	(NA)	(NA)	59.1	448.4	823.7	2 268.9	55.2
3792	TRAVEL TRAILERS AND CAMPERS. . . .	31.0	12.4	18.6	193.6	196.0	88	90	37.1	266.3	479.9	1 342.2	35.2
3795	TANKS AND TANK COMPONENTS.	13.2	3.2	10.0	287.8	187.9	92	82	5.9	65.0	111.7	272.2	3.1
3799	TRANSPORTATION EQUIPMENT, NEC. . . .	9.8	2.2	7.7	109.4	108.5	94	79	16.1	117.2	232.1	654.6	16.9
38	INSTRUMENTS, RELATED PRODUCTS. .	938.9	235.3	703.6	5 810.6	5 311.1	(NA)	(NA)	453.2	4 286.2	10 580.1	15 526.7	480.0
3811	ENGINEERING, SCIENTIFIC INSTRU . . .	57.4	13.2	44.2	470.1	421.4	(NA)	(NA)	-	-	-	-	-
382	MEASURING, CONTROLLING DEVICES . .	268.0	74.4	193.7	1 979.4	1 752.3	(NA)	(NA)	152.8	1 436.5	2 723.5	3 992.4	104.8
3822	ENVIRONMENTAL CONTROLS	47.7	11.0	36.7	285.9	250.7	80	92	30.7	253.6	511.8	728.1	17.1
3823	PROCESS CONTROL INSTRUMENTS.	52.1	14.9	37.2	555.9	507.8	90	80	35.6	342.9	620.4	883.6	27.3
3824	FLUID METERS AND COUNTING DEVICES. .	19.9	4.9	15.0	148.8	136.7	80	80	8.8	76.8	180.9	296.2	7.0
3825	INSTRU. TO MEASURE ELECTRICITY . . .	99.1	28.8	70.3	668.9	580.1	90	89	54.7	523.5	1 046.8	1 540.8	39.3
3829	MEASUR'G, CONTROL'G DEVICES, NEC . .	49.3	14.8	34.5	320.0	277.0	89	83	24.6	256.7	394.9	601.4	14.7

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977									
			All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)
		Companies (number)	Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)		
3832	OPTICAL INSTRUMENTS AND LENSES	515	545	199	30.0	421.2	16.9	33.6	188.0	897.4	1 330.4
384	MEDICAL INSTRUMENTS, SUPPLIES	2 058	2 355	679	113.5	1 318.8	76.8	149.2	711.8	3 261.9	5 217.0
3841	SURGICAL AND MEDICAL INSTRUMENTS	575	651	238	43.2	491.4	29.2	57.5	261.4	1 208.8	1 833.1
3842	SURGICAL APPLIANCES AND SUPPLIES	1 017	1 154	322	53.9	624.1	36.8	70.5	345.6	1 594.5	2 597.3
3843	DENTAL EQUIPMENT AND SUPPLIES	507	550	119	16.3	203.3	10.7	21.2	104.8	458.6	786.7
3851	OPHTHALMIC GOODS	593	634	155	30.0	314.1	21.7	43.1	188.4	656.2	971.8
3861	PHOTOGRAPHIC EQUIP. AND SUPPLIES	702	780	265	111.7	1 899.6	61.7	119.4	886.5	6 732.4	9 946.9
3873	WATCHES, CLOCKS, AND WATCHCASES	283	302	112	31.5	316.6	24.0	46.3	199.4	684.5	1 594.7
39	MISC. MANUFACTUR'G INDUSTRIES	16 550	17 259	3 794	440.7	4 406.4	338.7	626.7	2 745.3	10 291.0	19 150.7
391	JEWELRY, SILVER AND PLATED WARE	3 053	3 118	564	61.3	637.6	44.3	81.2	372.8	1 448.5	3 249.3
3911	JEWELRY, PRECIOUS METAL	2 165	2 206	405	42.1	432.0	29.2	53.3	241.4	979.8	2 107.0
3914	SILVERWARE AND PLATED WARE	247	258	67	10.8	119.8	8.3	15.7	80.2	255.1	457.0
3915	JEWELERS' MATS., LAPIDARY WORK	650	654	92	8.3	85.9	6.8	12.2	51.3	213.6	685.2
3931	MUSICAL INSTRUMENTS	400	450	127	25.2	252.7	20.6	38.2	178.2	488.2	924.9
394	TOYS AND SPORTING GOODS	2 713	2 910	835	119.4	1 111.8	93.3	172.4	697.0	2 999.8	5 485.0
3942	DOLLS	223	231	88	9.1	65.3	8.0	13.3	43.5	181.6	340.2
3944	GAMES, TOYS, CHILDREN'S VEHICLES	754	801	251	53.1	520.6	39.2	73.2	295.0	1 544.6	2 719.7
3949	SPORTING AND ATHLETIC GOODS, NEC	1 757	1 878	496	57.2	525.8	46.1	85.9	358.6	1 273.6	2 425.1
395	PENS, OFFICE AND ART GOODS	913	987	261	31.8	331.1	23.3	45.8	203.2	867.6	1 538.4
3951	PENS AND MECHNICAL PENCILS	133	141	78	13.2	135.6	10.4	20.6	92.9	419.8	669.8
3952	LEAD PENCILS AND ART GOODS	127	134	46	6.6	63.1	4.7	9.2	37.6	145.5	275.9
3953	MARKING DEVICES	583	612	86	7.4	78.7	4.7	9.1	39.6	160.0	248.7
3955	CARBON PAPER AND INKED RIBBONS	78	100	51	4.6	53.7	3.4	6.9	33.1	142.4	344.0
396	COSTUME JEWELRY AND NOTIONS	1 458	1 514	467	51.0	450.5	41.6	75.4	293.0	1 002.0	1 766.2
3961	COSTUME JEWELRY	837	847	236	25.0	215.9	20.8	36.1	136.1	485.1	816.6
3962	ARTIFICIAL FLOWERS	222	233	67	5.0	38.2	4.2	7.1	25.2	91.5	180.2
3963	BUTTONS	150	159	47	3.2	30.8	2.6	4.7	20.0	50.0	95.2
3964	NEEDLES, PINS, AND FASTENERS	249	275	117	17.7	165.6	14.0	27.5	111.8	375.4	674.2
399	MISCELLANEOUS MANUFACTURES	8 073	8 280	1 540	152.0	1 622.6	115.7	213.7	1 001.0	3 484.8	6 186.9
3991	BROOMS AND BRUSHES	391	409	153	16.5	163.8	12.7	24.0	101.1	353.6	673.1
3993	SIGNS AND ADVERTISING DISPLAYS	3 373	3 468	627	49.7	566.6	36.8	69.2	343.1	1 060.9	1 738.7
3995	BURIAL CASKETS	376	406	133	12.0	129.7	9.3	17.8	79.7	264.2	505.9
3996	HARD SURFACE FLOOR COVERINGS	20	21	13	6.4	93.5	5.0	10.4	68.6	321.3	607.2
3999	MANUFACTURING INDUSTRIES, NEC	3 921	3 976	614	67.3	669.1	52.0	92.3	408.5	1 484.7	2 662.0
60	ADMINISTRATIVE AND AUXILIARY[10]	-	9 171	4 856	1 074.2	21 981.2	-	-	-	-	-

See footnotes at end of table.

Table 3. Selected Statistics by Major Industry Group and Industry: 1977 and 1972—Con.

Code	Industry group and industry	1977--Continued							1972				
		New capital expenditures[4]			Inventories		Ratios		All employees				
		Total (million dollars)	Structures and additions to plant (million dollars)	Machinery and equipment (million dollars)	End of year (million dollars)	Beginning of year (million dollars)	Specialization (percent)	Coverage (percent)	Number (1,000)	Payroll (million dollars)	Value added by manufacture (million dollars)	Value of shipments[1] (million dollars)	New capital expenditures (million dollars)
3832	OPTICAL INSTRUMENTS AND LENSES	51.3	18.4	32.9	302.9	271.8	84	82	18.8	193.3	384.3	538.4	12.7
384	MEDICAL INSTRUMENTS, SUPPLIES	172.0	41.6	130.5	1 038.6	941.6	(NA)	(NA)	90.8	757.7	1 821.3	2 824.5	104.4
3841	SURGICAL AND MEDICAL INSTRUMENTS	87.2	21.7	65.5	360.7	322.5	88	80	34.5	282.4	630.0	961.8	42.0
3842	SURGICAL APPLIANCES AND SUPPLIES	68.6	16.2	52.5	503.7	454.7	87	85	43.9	365.3	929.0	1 453.5	47.5
3843	DENTAL EQUIPMENT AND SUPPLIES	16.2	3.7	12.5	174.1	164.3	92	98	12.4	110.0	262.3	409.2	14.9
3851	OPHTHALMIC GOODS	44.1	13.2	30.9	244.9	224.6	92	98	26.6	183.4	416.3	568.3	17.4
3861	PHOTOGRAPHIC EQUIP. AND SUPPLIES	322.7	69.2	253.5	1 503.0	1 428.2	95	95	96.0	1 119.7	4 087.9	5 623.9	202.9
3873	WATCHES, CLOCKS, AND WATCHCASES	23.2	5.4	17.9	271.7	271.2	91	95	30.8	230.3	466.0	937.2	18.8
39	MISC. MANUFACTURING INDUSTRIES	473.6	112.1	361.5	3 614.2	3 309.0	(NA)	(NA)	445.6	3 179.8	6 768.7	12 173.2	313.6
391	JEWELRY, SILVER AND PLATED WARE	39.6	10.1	29.4	752.5	670.8	(NA)	(NA)	53.2	424.5	850.8	1 812.5	21.9
3911	JEWELRY, PRECIOUS METAL	25.6	7.9	17.8	489.8	437.4	92	97	32.6	267.2	536.0	1 124.6	10.3
3914	SILVERWARE AND PLATED WARE	8.0	.7	7.3	142.8	136.8	93	98	13.1	106.4	206.8	377.4	9.8
3915	JEWELERS' MATS., LAPIDARY WORK	5.9	1.6	4.4	119.9	96.5	96	89	8.0	55.7	116.4	323.3	5.3
3931	MUSICAL INSTRUMENTS	13.8	2.7	11.2	243.2	245.4	(NA)	(NA)	24.5	173.4	339.3	617.5	10.6
394	TOYS AND SPORTING GOODS	147.6	33.2	114.4	1 079.2	976.0	(NA)	(NA)	132.7	880.9	1 999.3	3 662.6	121.2
3942	DOLLS	6.4	1.4	5.0	62.5	46.6	94	59	10.2	54.0	98.3	199.1	1.7
3944	GAMES, TOYS, CHILDREN'S VEHICLES	78.5	19.5	58.9	437.7	383.3	86	93	61.5	421.0	980.6	1 734.3	72.7
3949	SPORTING AND ATHLETIC GOODS, NEC	62.7	12.3	50.4	579.1	546.1	95	94	61.0	405.9	920.4	1 729.2	46.7
395	PENS, OFFICE AND ART GOODS	55.3	12.6	42.7	276.1	248.4	(NA)	(NA)	31.7	244.3	556.8	926.7	19.8
3951	PENS AND MECHNICAL PENCILS	32.8	9.1	23.7	123.1	108.6	85	94	10.9	81.9	213.7	310.5	7.6
3952	LEAD PENCILS AND ART GOODS	10.8	1.8	9.0	70.9	64.2	85	79	7.1	50.0	108.2	198.8	3.9
3953	MARKING DEVICES	5.5	.8	4.7	34.3	30.8	85	88	8.1	63.2	121.5	180.0	2.6
3955	CARBON PAPER AND INKED RIBBONS	6.2	.9	5.3	47.8	44.7	96	64	5.7	49.1	113.4	237.5	5.7
396	COSTUME JEWELRY AND NOTIONS	44.0	12.0	32.0	274.6	261.1	(NA)	(NA)	50.4	323.1	719.6	1 248.7	33.5
3961	COSTUME JEWELRY	17.6	7.8	9.8	119.6	110.6	92	89	21.4	132.1	275.7	471.6	6.7
3962	ARTIFICIAL FLOWERS	3.0	1.0	2.0	29.5	27.2	98	91	4.8	26.7	57.5	108.7	3.3
3963	BUTTONS	1.4	.3	1.2	13.9	17.6	98	82	4.0	26.7	51.8	93.7	2.3
3964	NEEDLES, PINS, AND FASTENERS	22.0	3.0	19.0	111.6	105.8	92	95	20.2	137.7	334.5	574.7	21.2
399	MISCELLANEOUS MANUFACTURES	173.3	41.4	131.8	988.6	907.3	(NA)	(NA)	153.0	1 133.6	2 302.8	3 905.2	106.6
3991	BROOMS AND BRUSHES	15.7	2.4	13.3	129.9	119.9	91	89	17.5	118.5	235.5	438.3	13.0
3993	SIGNS AND ADVERTISING DISPLAYS	43.0	13.5	29.5	210.8	190.0	98	97	49.8	415.9	747.7	1 198.1	30.6
3995	BURIAL CASKETS	16.3	2.2	14.2	81.8	78.2	99	98	14.8	109.3	210.3	391.9	8.8
3996	HARD SURFACE FLOOR COVERINGS	16.9	1.9	15.1	84.9	76.2	92	98	5.8	59.4	212.0	342.3	14.0
3999	MANUFACTURING INDUSTRIES, NEC	81.3	21.5	59.8	481.1	442.9	91	90	65.1	430.5	897.2	1 534.7	40.2
--	ADMINISTRATIVE AND AUXILIARY[10]	-	-	-	-	-	-	-	994.3	13 772.3	-	-	-

Note: 1977 and 1972 payroll and sales data for small establishments (generally single-unit companies with less than 10 employees) were obtained from administrative records of other government agencies instead of from a census report form. These data were then used in conjunction with industry averages to estimate the balance of the items shown in the table for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time the data were tabulated.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. (X) Not applicable.

[1]The total value of shipments for industry groups (2- and 3-digit) and a few individual industries (4-digit) includes extensive duplication arising from shipments between establishments in the same industry classification.

[2]Establishments in this industry reported value of production instead of value of shipments. Consequently, the formula for computing value added by manufacture was modified to exclude any change in finished product inventories between the beginning and end of the year.

[3]Value added data include government-owned, contractor-operated plants which were estimated based upon averages reported for commercial establishments in prior years. Cost of materials data exclude government-owned materials furnished to government-owned, contractor-operated plants and include fuel and electricity purchased by or for the establishments. Value of shipments data include a calculated value of shipments for government-owned, contractor-operated plants comprised of adjusted value added plus the cost of fuels and electric energy. New capital expenditures include expenditures for plants under construction but not in operation. Capital expenditures of government-owned, contractor-operated plants are excluded from the totals for the industry.

[4]Includes expenditures for plants in operation and for plants under construction but not yet in operation.

[5]Government-owned, privately-operated establishments did not enter into the calculation of "primary product specialization ratio" or "coverage ratio" as all other dollar receipts for these establishments were included in "miscellaneous receipts."

[6]Minumum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[7]The value of shipments and cost of materials for this industry include substantial duplication; therefore, the specialization ratios and coverage ratios were not calculated.

[8]Relationships are not meaningful because of the predominance of receipts for contract and commission work on materials owned by others. Such receipts are treated as primary products for this industry.

[9]Establishments in this industry were requested to report value of work done instead of value of shipments. Consequently, the formula for computing value added by manufacture was not adjusted for any inventory change between the beginning and end of the year.

[10]In 1977 and 1972, in addition to the employment and payroll reported for operating manufacturing establishments, manufacturing concerns reported separately for administrative offices or auxiliary units which serve the manufacturing establishments of a company (e.g., storage warehouses, power plants, research laboratories, garages, repair shops, etc.) rather than the general public. Separate reports were obtained if these units were at different general locations from the establishments served or if they serviced more than one manufacturing establishment. The figures shown for these units do not represent a separate industry but rather a balancing total for all manufacturing industries.

Table 4. Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
ALL INDUSTRIES, TOTAL[1]											
ESTABLISHMENTS, TOTAL	350 757	18 515.1	242 031.9	13 691.0	26 686.7	157 163.7	585 165.6	782 417.7	1 358 526.4	47 459.0	188 436.4
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	140 626	218.5	2 549.8	198.7	320.2	1 674.6	5 628.1	6 486.7	12 651.7	807.1	1 419.2
5 TO 9 EMPLOYEES E4	48 004	322.9	3 696.1	243.9	462.0	2 392.0	8 157.9	9 158.7	17 270.7	570.5	1 990.2
10 TO 19 EMPLOYEES E2	448 250	664.6	7 466.9	492.1	932.2	4 744.8	16 295.4	19 208.0	35 338.4	1 162.4	4 090.0
20 TO 49 EMPLOYEES E1	51 522	1 618.7	18 030.0	1 218.9	2 334.1	11 405.6	41 270.5	53 756.3	94 476.6	3 118.0	10 867.8
50 TO 99 EMPLOYEES	26 707	1 870.8	20 660.2	1 419.2	2 741.3	13 301.2	48 558.3	69 003.1	116 945.7	3 560.3	14 880.5
100 TO 249 EMPLOYEES	21 546	3 336.4	37 772.2	2 532.9	4 930.2	24 928.7	92 231.6	129 861.6	220 484.9	7 812.1	30 940.7
250 TO 499 EMPLOYEES	8 364	2 886.2	33 659.6	2 193.9	4 287.5	22 579.7	85 872.6	119 291.5	203 486.7	7 095.6	29 864.4
500 TO 999 EMPLOYEES	3 677	2 506.3	32 588.8	1 844.0	3 640.7	21 489.1	86 734.0	116 369.8	201 275.9	6 231.8	29 046.5
1,000 TO 2,499 EMPLOYEES	1 480	2 179.7	32 565.3	1 554.6	3 090.3	21 095.3	84 148.4	109 896.2	188 800.0	7 868.6	26 561.8
2,500 OR MORE EMPLOYEES	581	2 911.1	53 043.4	1 991.0	3 948.2	33 552.7	116 268.8	149 385.8	267 795.8	9 232.6	38 774.6
ADMIN. RECORDS ESTABS.[2] E9	144 662	460.7	5 177.7	378.4	669.5	3 348.2	11 110.9	11 591.2	22 702.1	713.5	3 117.4
20 FOOD AND KINDRED PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	26 656	1 520.0	18 543.6	1 072.0	2 112.4	11 730.7	56 062.2	136 963.7	192 911.6	4 214.9	16 984.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	8 843	13.9	164.6	11.7	19.1	101.5	401.0	1 169.8	1 624.3	157.8	104.4
5 TO 9 EMPLOYEES E5	3 332	22.4	246.2	15.4	30.2	148.5	701.1	1 860.8	2 558.1	57.2	179.6
10 TO 19 EMPLOYEES E2	3 439	47.5	523.4	32.8	64.4	309.3	1 526.9	4 496.9	6 014.8	118.8	445.9
20 TO 49 EMPLOYEES	4 420	143.0	1 605.4	95.8	188.7	904.2	4 962.8	14 787.5	19 725.1	393.1	1 413.3
50 TO 99 EMPLOYEES	2 817	197.2	2 271.2	132.8	264.2	1 317.7	6 898.2	21 837.4	28 798.9	556.5	2 394.0
100 TO 249 EMPLOYEES	2 424	377.4	4 464.3	255.6	507.8	2 663.4	13 376.2	33 531.0	46 887.9	1 060.2	4 313.2
250 TO 499 EMPLOYEES	947	330.4	4 007.3	235.3	461.7	2 554.1	12 063.8	25 909.1	37 902.8	857.9	3 800.6
500 TO 999 EMPLOYEES	335	224.9	2 903.1	170.8	337.5	2 038.5	9 314.4	19 385.7	28 624.9	570.1	2 695.0
1,000 TO 2,499 EMPLOYEES	86	119.4	1 616.4	90.6	178.0	1 171.9	4 998.2	10 790.2	15 765.8	305.6	1 219.4
2,500 OR MORE EMPLOYEES	13	43.9	741.7	31.3	60.7	521.8	1 819.6	3 195.4	5 008.9	137.7	419.5
ADMIN. RECORDS ESTABS.[2] E9	9 760	34.2	393.8	25.3	46.1	240.1	988.8	2 393.2	3 382.1	58.0	248.6
21 TOBACCO PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	228	60.6	750.7	50.4	92.6	570.7	4 334.1	4 729.8	9 050.6	181.5	3 711.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E9	71	.1	.8	.1	.2	.6	2.0	6.0	8.5	.6	2.8
5 TO 9 EMPLOYEES E7	20	.1	1.0	.1	.2	.7	2.6	6.5	9.2	.1	3.0
10 TO 19 EMPLOYEES E3	14	.2	1.4	.2	.3	1.1	1.8	10.1	13.4	.2	6.9
20 TO 49 EMPLOYEES	22	.8	5.4	.6	1.2	3.8	8.8	15.9	25.1	.3	9.0
50 TO 99 EMPLOYEES	16	1.1	11.0	.9	1.7	7.1	36.1	80.3	117.4	1.2	41.7
100 TO 249 EMPLOYEES	41	(15.7)	(137.3)	(12.9)	(24.6)	(95.1)	(465.2)	(1 878.4)	(2 326.4)	(62.5)	(990.9)
250 TO 499 EMPLOYEES	27	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 TO 999 EMPLOYEES	7	4.8	44.2	4.1	7.3	33.2	183.4	269.8	452.8	5.0	71.8
1,000 TO 2,499 EMPLOYEES	4	5.9	83.1	5.1	9.6	71.4	539.1	388.8	927.3	7.5	206.0
2,500 OR MORE EMPLOYEES	6	31.9	466.7	26.4	47.6	357.7	3 095.1	2 073.9	5 170.5	104.0	2 379.7
ADMIN. RECORDS ESTABS.[2] E0	82	.3	2.0	.3	.4	1.5	5.7	10.5	16.2	.2	4.6
22 TEXTILE MILL PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	7 202	875.7	7 881.4	764.6	1 523.1	6 202.8	16 104.5	24 753.2	40 550.5	1 223.5	5 509.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E6	1 499	2.3	21.5	2.3	4.1	16.1	27.3	69.5	120.3	3.7	14.8
5 TO 9 EMPLOYEES E6	693	4.7	40.6	4.1	7.8	29.4	77.0	124.0	201.4	5.0	29.9
10 TO 19 EMPLOYEES E4	879	12.2	105.9	10.2	20.0	75.6	217.9	359.2	574.8	14.2	74.3
20 TO 49 EMPLOYEES E1	1 278	41.2	358.3	34.9	66.9	258.4	706.1	1 020.5	1 723.1	46.9	206.3
50 TO 99 EMPLOYEES	830	59.5	514.2	51.4	99.9	386.9	1 028.7	1 481.9	2 496.4	73.0	311.8
100 TO 249 EMPLOYEES	1 018	160.8	1 425.7	139.5	276.7	1 099.3	2 936.5	4 586.7	7 492.5	235.2	902.4
250 TO 499 EMPLOYEES	587	205.0	1 837.1	179.5	361.3	1 463.5	3 735.7	6 123.9	9 805.4	303.3	1 292.2
500 TO 999 EMPLOYEES	309	208.5	1 936.6	183.0	369.9	1 556.5	4 061.2	5 879.5	9 858.3	271.2	1 342.5
1,000 TO 2,499 EMPLOYEES	97	132.3	1 203.5	115.2	230.7	947.8	2 449.5	3 805.4	6 188.6	230.8	954.2
2,500 OR MORE EMPLOYEES	12	49.4	438.0	44.4	85.9	369.4	864.4	1 302.7	2 089.7	40.2	381.4
ADMIN. RECORDS ESTABS.[2] E0	2 062	13.2	109.7	11.8	22.6	82.8	201.0	304.0	505.1	12.4	70.9
23 APPAREL, OTHER TEXTILE PRODS.											
ESTABLISHMENTS, TOTAL[1]	26 505	1 334.3	9 658.6	1 156.6	2 037.6	7 252.8	19 671.3	20 865.5	40 245.1	456.7	5 535.8
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E5	7 826	12.7	115.0	12.5	19.4	85.2	235.8	406.6	700.2	4.7	75.4
5 TO 9 EMPLOYEES E4	3 086	20.9	168.1	18.2	31.3	116.0	352.2	468.5	818.9	7.1	98.5
10 TO 19 EMPLOYEES E2	3 660	51.4	409.5	42.5	74.5	274.0	836.8	1 092.1	1 915.5	16.0	228.2
20 TO 49 EMPLOYEES E1	5 405	173.6	1 274.9	148.1	254.0	902.9	2 633.8	3 140.7	5 724.7	52.7	702.0
50 TO 99 EMPLOYEES E1	3 010	210.6	1 466.1	184.1	317.8	1 091.8	2 953.2	2 985.7	5 903.9	67.4	701.8
100 TO 249 EMPLOYEES	2 424	377.1	2 537.7	330.1	578.0	1 955.1	4 978.6	4 624.5	9 516.3	126.3	1 323.3
250 TO 499 EMPLOYEES	845	286.8	1 950.4	252.3	452.2	1 527.0	3 907.7	3 846.8	7 685.2	100.3	1 173.2
500 TO 999 EMPLOYEES	208	131.8	986.2	112.1	204.3	728.4	2 241.2	2 464.3	4 625.9	40.4	776.2
1,000 TO 2,499 EMPLOYEES	35	48.1	501.9	40.2	77.2	388.0	1 065.5	1 309.9	2 355.7	28.3	353.5
2,500 OR MORE EMPLOYEES	8	21.4	248.7	16.5	29.0	184.3	466.5	526.5	998.8	13.6	103.7
ADMIN. RECORDS ESTABS.[2] E9	8 792	41.9	290.1	38.6	64.6	217.0	538.7	517.8	1 056.6	9.8	138.4

See footnotes at end of table.

Table 4. **Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977**—Con.

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
24 LUMBER AND WOOD PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	37 302	692.4	7 424.7	594.8	1 147.6	5 795.0	16 222.8	23 918.7	39 919.4	1 562.6	4 663.8
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	21 273	28.9	296.9	26.7	48.3	239.7	717.4	898.3	1 629.5	114.9	155.2
5 TO 9 EMPLOYEES E3	4 756	31.5	304.6	28.1	49.8	240.5	677.1	833.3	1 504.8	73.9	156.0
10 TO 19 EMPLOYEES E1	4 217	57.4	530.3	48.9	86.3	407.7	1 166.3	1 375.9	2 526.0	118.2	274.1
20 TO 49 EMPLOYEES E1	3 695	114.2	1 077.8	96.7	178.9	804.9	2 361.8	3 024.1	5 352.4	219.1	654.6
50 TO 99 EMPLOYEES	1 786	127.2	1 290.8	108.0	210.8	980.9	2 810.3	4 393.5	7 144.8	230.8	920.7
100 TO 249 EMPLOYEES	1 224	183.0	2 032.7	155.8	311.5	1 589.3	4 370.9	6 990.1	11 286.7	369.6	1 289.9
250 TO 499 EMPLOYEES	278	92.8	1 116.9	80.1	162.9	906.9	2 450.6	3 737.6	6 151.3	234.4	695.9
500 TO 999 EMPLOYEES	80	39.3	510.7	33.4	68.7	409.7	1 135.9	1 901.8	3 027.8	144.8	349.5
1,000 TO 2,499 EMPLOYEES	12	(18.1)	(264.1)	(15.2)	(30.4)	(215.4)	(532.5)	(763.9)	(1 296.2)	(56.9)	(167.9)
2,500 OR MORE EMPLOYEES	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2] E9	19 523	37.5	363.0	36.0	61.9	287.5	803.9	1 037.2	1 841.1	101.0	188.5
25 FURNITURE AND FIXTURES											
ESTABLISHMENTS, TOTAL[1]	10 235	463.8	4 448.3	383.6	736.4	3 191.8	8 921.7	8 187.4	16 978.0	388.7	2 750.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	3 762	6.1	57.9	5.9	9.7	40.8	113.0	109.1	235.9	7.2	35.2
5 TO 9 EMPLOYEES E5	1 445	9.8	94.3	8.2	15.2	65.9	186.2	168.1	352.8	7.5	51.9
10 TO 19 EMPLOYEES E3	1 440	19.9	192.2	16.0	30.5	132.8	365.6	355.7	715.9	13.8	97.3
20 TO 49 EMPLOYEES E1	1 615	51.1	495.0	41.2	78.5	340.9	952.4	939.5	1 880.4	35.5	257.3
50 TO 99 EMPLOYEES	885	62.6	586.9	51.4	97.6	410.4	1 197.7	1 159.2	2 337.4	52.2	343.9
100 TO 249 EMPLOYEES	890	106.6	1 003.3	87.4	166.5	713.9	2 013.7	1 908.8	3 876.0	84.8	651.9
250 TO 499 EMPLOYEES	254	87.5	811.2	74.0	142.1	606.5	1 686.2	1 596.9	3 254.4	80.8	558.2
500 TO 999 EMPLOYEES	116	75.8	722.9	62.7	124.0	532.7	1 413.0	1 261.3	2 654.1	57.0	454.4
1,000 TO 2,499 EMPLOYEES	26	(44.5)	(484.5)	(36.8)	(72.2)	(347.9)	(993.9)	(688.9)	(1 671.2)	(49.8)	(300.2)
2,500 OR MORE EMPLOYEES	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2] E9	4 368	17.4	153.0	15.6	27.6	110.3	289.9	276.7	566.7	11.0	92.0
26 PAPER AND ALLIED PRODUCTS											
ESTABLISHMENTS, TOTAL	6 545	628.7	8 942.9	486.3	985.9	6 323.1	22 170.9	30 148.2	52 085.7	3 295.0	5 641.5
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E6	1 126	2.2	22.3	1.7	2.8	14.9	44.6	65.9	118.3	(61.8)	14.2
5 TO 9 EMPLOYEES E5	600	4.2	48.2	3.2	6.3	31.8	108.6	161.9	270.2	(D)	31.4
10 TO 19 EMPLOYEES E4	819	11.4	132.4	8.7	17.0	85.8	294.3	403.9	697.8	44.3	77.0
20 TO 49 EMPLOYEES	1 313	42.9	491.9	33.5	65.6	317.7	1 121.3	1 511.6	2 622.4	133.0	252.3
50 TO 99 EMPLOYEES	963	69.1	832.7	53.9	108.1	562.8	1 899.9	2 687.4	4 565.3	162.0	511.7
100 TO 249 EMPLOYEES	1 185	178.8	2 378.1	137.1	278.1	1 642.8	5 101.0	8 056.1	13 111.8	504.7	1 516.5
250 TO 499 EMPLOYEES	315	106.6	1 531.3	84.0	173.0	1 120.4	3 961.6	5 406.2	9 304.3	465.9	1 045.9
500 TO 999 EMPLOYEES	153	105.9	1 737.0	83.7	172.9	1 319.1	4 990.5	6 693.5	11 594.5	955.1	1 201.5
1,000 TO 2,499 EMPLOYEES	68	99.3	1 652.9	75.0	151.7	1 167.2	4 354.4	4 905.4	9 253.4	920.7	926.6
2,500 OR MORE EMPLOYEES	3	8.7	116.0	6.5	10.4	60.5	294.7	256.2	547.7	47.4	64.3
ADMIN. RECORDS ESTABS.[2] E9	1 523	9.5	114.7	7.4	14.3	75.5	230.3	332.2	562.5	16.0	67.8
27 PRINTING AND PUBLISHING											
ESTABLISHMENTS, TOTAL[1]	49 676	1 092.2	14 024.5	625.8	1 152.8	7 322.1	31 979.5	17 794.7	49 716.2	1 597.8	4 200.6
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	27 530	40.7	508.1	33.1	48.4	295.1	1 157.7	674.9	1 866.1	62.8	140.4
5 TO 9 EMPLOYEES E3	6 933	46.3	539.4	30.3	52.7	316.4	1 100.3	649.6	1 744.1	57.6	126.7
10 TO 19 EMPLOYEES E1	6 159	84.0	941.6	54.3	94.2	550.6	1 847.1	1 076.7	2 909.4	87.7	224.3
20 TO 49 EMPLOYEES E1	5 122	156.0	1 865.0	100.8	188.8	1 061.8	3 804.4	2 143.5	5 924.1	214.1	450.3
50 TO 99 EMPLOYEES	2 114	145.0	1 803.8	90.3	172.6	1 014.5	3 804.2	2 219.4	5 998.8	209.3	535.4
100 TO 249 EMPLOYEES	1 258	189.0	2 367.4	114.5	220.3	1 327.2	5 461.4	3 211.4	8 620.7	311.5	805.0
250 TO 499 EMPLOYEES	375	128.6	1 619.7	69.0	130.2	845.3	4 075.1	2 310.2	6 373.7	245.7	666.1
500 TO 999 EMPLOYEES	182	123.9	1 657.2	57.5	107.8	738.2	4 583.8	2 440.2	7 018.7	147.8	620.1
1,000 TO 2,499 EMPLOYEES	75	112.8	1 643.0	50.7	94.1	740.3	3 844.6	1 853.1	5 673.4	170.3	433.7
2,500 OR MORE EMPLOYEES	19	65.9	1 079.4	25.3	43.7	432.7	2 300.9	1 215.8	3 587.2	90.9	198.6
ADMIN. RECORDS ESTABS.[2] E9	24 655	45.1	554.9	34.1	52.7	314.5	1 226.7	693.3	1 920.1	58.8	151.9
28 CHEMICALS AND ALLIED PRODUCTS[1]											
ESTABLISHMENTS, TOTAL	12 173	880.2	13 839.3	543.8	1 089.9	7 446.2	56 720.6	62 293.8	118 153.6	8 198.9	14 791.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E5	4 086	6.5	89.4	4.8	8.1	45.2	334.8	429.6	800.9	148.9	95.0
5 TO 9 EMPLOYEES E3	1 738	11.8	159.5	7.3	14.7	82.9	662.8	784.8	1 447.9	62.4	157.4
10 TO 19 EMPLOYEES E1	1 744	24.0	327.0	14.5	28.7	160.7	1 335.5	1 680.0	3 005.5	144.5	343.5
20 TO 49 EMPLOYEES	2 026	63.3	859.4	38.2	76.6	422.3	3 363.1	4 947.4	8 260.9	442.4	975.6
50 TO 99 EMPLOYEES	1 061	74.0	1 013.7	44.5	90.0	512.4	4 073.8	5 886.0	9 904.7	479.7	1 274.0
100 TO 249 EMPLOYEES	812	125.2	1 830.5	78.4	160.7	1 014.7	7 941.7	10 318.3	18 095.8	1 628.9	2 411.8
250 TO 499 EMPLOYEES	348	121.4	1 886.4	77.4	158.5	1 104.5	8 987.2	10 761.5	19 590.7	1 526.6	2 422.0
500 TO 999 EMPLOYEES	213	146.8	2 410.6	93.9	189.5	1 384.3	11 261.9	11 163.9	22 283.9	974.0	2 642.5
1,000 TO 2,499 EMPLOYEES	109	165.3	2 764.6	103.0	205.1	1 516.9	11 635.3	10 598.3	22 009.5	2 158.7	2 921.9
2,500 OR MORE EMPLOYEES	36	141.8	2 498.2	81.7	157.9	1 202.5	7 124.5	5 723.9	12 753.7	632.8	1 547.6
ADMIN. RECORDS ESTABS.[2] E9	3 965	13.6	189.3	8.9	16.4	95.0	674.8	663.1	1 337.8	57.0	171.6

See footnotes at end of table.

Table 4. **Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977**—Con.

Item	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
29 PETROLEUM AND COAL PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	2 206	146.8	2 696.2	101.1	207.9	1 765.4	16 377.6	81 655.4	97 452.7	2 261.3	5 656.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E1	710	1.4	21.1	1.2	2.2	13.9	96.0	327.1	431.8	11.5	19.3
5 TO 9 EMPLOYEES E1	422	2.8	40.1	1.9	4.1	25.4	139.2	422.2	559.3	18.7	28.1
10 TO 19 EMPLOYEES	300	4.1	57.3	2.8	5.8	34.8	201.0	549.3	749.3	17.8	52.0
20 TO 49 EMPLOYEES	348	10.8	159.6	7.2	14.8	94.4	701.0	2 399.5	3 096.0	160.7	210.1
50 TO 99 EMPLOYEES	148	10.6	157.0	7.1	14.5	95.9	586.6	2 406.4	2 986.6	68.6	198.2
100 TO 249 EMPLOYEES	150	24.6	412.2	17.9	38.1	287.0	2 092.3	10 211.0	12 213.3	249.5	876.8
250 TO 499 EMPLOYEES	63	21.2	401.1	14.8	31.3	271.6	2 575.9	15 786.3	18 166.2	610.9	1 278.8
500 TO 999 EMPLOYEES	45	31.6	632.9	20.9	42.4	406.9	4 396.4	22 669.4	26 952.8	489.5	1 461.0
1,000 TO 2,499 EMPLOYEES	18	(39.8)	(814.8)	(27.4)	(54.7)	(535.4)	(5 589.1)	(26 884.3)	(32 297.5)	(634.2)	(1 532.1)
2,500 OR MORE EMPLOYEES.	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2] E0	324	.9	12.7	.7	1.3	7.6	36.2	65.7	101.9	3.3	7.5
30 RUBBER, MISC. PLASTICS PROD.											
ESTABLISHMENTS, TOTAL[1]	11 943	721.3	8 536.0	563.7	1 110.6	5 841.6	19 740.0	20 217.8	39 552.8	1 645.3	4 952.7
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	3 402	5.5	60.0	5.3	8.6	39.6	140.1	161.3	315.0	14.6	35.9
5 TO 9 EMPLOYEES E5	1 604	10.8	119.2	8.4	16.5	78.4	263.4	289.9	552.7	25.4	63.6
10 TO 19 EMPLOYEES E2	1 643	22.9	246.8	17.7	34.4	156.9	567.2	627.1	1 187.4	53.9	137.0
20 TO 49 EMPLOYEES	2 257	71.7	730.6	57.0	110.4	472.8	1 803.3	1 986.0	3 761.0	185.6	409.8
50 TO 99 EMPLOYEES	1 483	104.9	1 049.9	83.5	162.5	697.5	2 473.9	2 906.4	5 346.6	230.0	596.5
100 TO 249 EMPLOYEES	1 025	159.7	1 694.0	127.7	251.2	1 164.3	3 788.1	4 098.0	7 838.0	391.1	963.5
250 TO 499 EMPLOYEES	340	113.5	1 288.3	88.2	177.6	867.5	3 113.9	2 825.2	5 873.7	217.1	770.0
500 TO 999 EMPLOYEES	105	69.4	821.1	54.7	109.3	586.6	1 928.7	1 772.9	3 698.6	138.5	461.8
1,000 TO 2,499 EMPLOYEES	70	108.5	1 575.6	83.3	163.6	1 143.8	3 967.7	3 907.7	7 695.2	248.0	1 129.0
2,500 OR MORE EMPLOYEES.	14	54.4	950.4	37.9	76.5	634.3	1 693.7	1 643.3	3 284.7	141.0	385.5
ADMIN. RECORDS ESTABS.[2] E9	4 093	16.6	177.2	13.9	25.6	118.1	389.5	402.0	791.5	32.5	95.7
31 LEATHER AND LEATHER PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	3 075	242.5	1 859.7	211.5	381.9	1 408.1	3 718.8	3 932.6	7 607.4	96.2	1 098.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	930	1.6	12.5	1.5	2.4	8.7	15.4	31.2	58.3	.6	7.9
5 TO 9 EMPLOYEES E4	326	2.2	18.2	1.9	3.5	12.5	36.7	58.8	95.7	1.1	11.5
10 TO 19 EMPLOYEES E2	332	4.7	38.4	3.9	7.2	26.1	77.3	115.0	191.1	1.5	24.4
20 TO 49 EMPLOYEES E2	456	14.5	110.3	12.5	22.1	80.9	204.0	251.9	454.2	7.7	59.7
50 TO 99 EMPLOYEES	368	25.9	200.7	22.1	39.6	145.1	380.3	460.5	843.6	11.4	116.1
100 TO 249 EMPLOYEES	337	55.9	421.5	49.1	88.1	320.2	859.0	907.9	1 748.3	23.1	256.5
250 TO 499 EMPLOYEES	265	93.6	681.5	83.6	149.9	552.4	1 421.7	1 396.9	2 796.2	32.9	354.4
500 TO 999 EMPLOYEES	56	36.1	286.5	30.8	57.8	210.5	554.5	531.3	1 068.5	14.2	196.0
1,000 TO 2,499 EMPLOYEES	5	8.0	90.1	6.0	11.3	51.8	169.9	179.0	351.5	3.6	72.4
ADMIN. RECORDS ESTABS.[2] E9	1 000	3.6	27.2	3.3	5.6	19.8	50.7	56.7	107.4	1.4	14.8
32 STONE, CLAY, GLASS PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	17 744	613.7	7 943.1	484.4	960.7	5 766.6	19 129.6	16 444.8	35 476.6	1 881.4	4 279.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E6	6 648	11.2	131.9	10.4	18.0	91.0	334.1	342.9	694.5	61.4	58.2
5 TO 9 EMPLOYEES E3	2 844	19.2	234.0	14.6	28.6	158.0	559.9	621.2	1 178.0	52.1	94.1
10 TO 19 EMPLOYEES E1	3 051	42.3	502.9	31.0	60.7	327.5	1 191.9	1 364.0	2 550.4	121.2	198.0
20 TO 49 EMPLOYEES	2 862	87.4	1 067.8	63.5	129.2	683.2	2 398.3	2 703.1	5 082.6	253.8	437.6
50 TO 99 EMPLOYEES	1 103	76.1	919.6	58.5	117.1	634.1	2 138.8	2 094.4	4 214.4	212.4	454.8
100 TO 249 EMPLOYEES	803	122.4	1 597.8	97.4	196.9	1 175.8	4 042.1	3 555.0	7 591.4	514.2	1 037.1
250 TO 499 EMPLOYEES	257	89.0	1 164.0	72.0	144.2	881.0	2 918.6	2 296.2	5 188.7	301.3	715.9
500 TO 999 EMPLOYEES	128	90.7	1 213.4	75.9	148.0	959.3	3 090.5	1 950.8	5 059.0	212.3	703.0
1,000 TO 2,499 EMPLOYEES	42	57.7	822.4	47.6	91.8	649.8	1 777.3	1 043.8	2 821.7	111.5	393.5
2,500 OR MORE EMPLOYEES.	8	17.6	289.3	13.4	26.2	207.0	677.9	473.4	1 095.9	41.2	187.1
ADMIN. RECORDS ESTABS.[2] E9	6 310	17.8	202.1	15.4	27.4	138.6	453.6	421.5	875.1	41.0	93.5
33 PRIMARY METAL INDUSTRIES											
ESTABLISHMENTS, TOTAL[1]	7 375	1 113.6	18 745.0	885.3	1 744.0	14 065.2	37 568.2	66 171.3	103 179.4	4 496.8	18 458.3
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	1 589	2.7	35.6	2.7	4.4	25.6	31.1	113.9	186.6	19.4	26.7
5 TO 9 EMPLOYEES E6	817	5.6	72.4	4.5	8.7	50.9	138.5	210.2	346.7	13.0	49.8
10 TO 19 EMPLOYEES E3	988	13.6	174.2	10.8	21.2	120.4	351.9	492.6	842.1	30.4	110.3
20 TO 49 EMPLOYEES E1	1 347	43.6	542.4	35.2	68.9	373.7	1 226.2	1 942.2	3 149.9	119.6	385.1
50 TO 99 EMPLOYEES	901	64.0	795.5	51.4	102.1	559.7	1 812.7	3 414.1	5 214.5	181.5	743.5
100 TO 249 EMPLOYEES	934	148.8	1 960.8	118.7	238.1	1 418.9	4 191.7	7 641.7	11 801.9	426.0	1 785.8
250 TO 499 EMPLOYEES	412	142.2	2 080.7	112.0	223.4	1 519.2	4 484.0	8 593.0	12 974.2	422.7	2 310.1
500 TO 999 EMPLOYEES	215	146.5	2 380.1	115.5	231.4	1 788.2	5 450.9	10 462.0	15 864.1	495.9	2 771.7
1,000 TO 2,499 EMPLOYEES	99	142.2	2 569.9	112.0	222.7	1 963.5	5 026.1	8 908.0	13 776.4	767.9	2 466.4
2,500 OR MORE EMPLOYEES.	73	404.5	8 133.4	322.6	623.1	6 245.2	14 855.2	24 393.6	39 023.0	2 020.4	7 809.1
ADMIN. RECORDS ESTABS.[2] E9	2 189	11.4	151.8	9.6	17.8	109.9	275.7	435.6	711.4	28.2	111.1

See footnotes at end of table.

Table 4. **Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977**—Con.

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
34 FABRICATED METAL PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	33 712	1 555.7	21 035.9	1 191.6	2 373.8	14 428.8	45 511.5	45 384.8	90 023.5	2 606.1	15 306.2
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	10 614	17.9	212.6	10.9	27.8	141.1	421.4	426.3	892.0	29.2	140.5
5 TO 9 EMPLOYEES E4	4 746	32.3	390.3	25.1	50.0	259.8	776.5	713.8	1 485.4	50.2	221.7
10 TO 19 EMPLOYEES E2	5 612	78.1	938.3	59.2	117.0	606.7	1 848.0	1 835.9	3 670.3	110.5	520.8
20 TO 49 EMPLOYEES E1	6 452	202.5	2 463.9	156.4	308.6	1 609.9	5 181.3	5 321.4	10 432.7	294.4	1 481.6
50 TO 99 EMPLOYEES	2 970	205.3	2 498.8	159.3	316.6	1 667.8	5 464.6	5 816.9	11 183.7	369.1	1 816.8
100 TO 249 EMPLOYEES	2 182	335.1	4 244.5	256.8	512.6	2 881.2	9 715.8	10 822.1	20 301.1	645.7	3 657.6
250 TO 499 EMPLOYEES	746	255.1	3 382.9	193.5	384.3	2 340.0	7 683.9	8 225.7	15 726.2	396.5	2 945.7
500 TO 999 EMPLOYEES	277	187.6	2 574.4	140.2	276.6	1 782.9	5 766.5	5 034.9	10 685.2	251.5	2 268.8
1,000 TO 2,499 EMPLOYEES	78	115.6	1 780.6	82.6	168.3	1 177.5	4 035.6	2 886.8	6 813.7	186.8	1 322.2
2,500 OR MORE EMPLOYEES	35	126.1	2 549.7	101.6	212.1	1 961.9	4 618.0	4 301.0	8 833.1	272.2	930.6
ADMIN. RECORDS ESTABS.[2] E9	11 868	47.2	565.2	38.9	71.5	377.5	1 140.3	1 068.5	2 208.8	64.0	392.9
35 MACHINERY, EXCEPT ELECTRICAL											
ESTABLISHMENTS, TOTAL[1]	48 200	2 083.3	30 557.5	1 413.8	2 803.0	18 298.4	67 222.5	56 531.6	122 187.7	4 402.4	27 170.9
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	20 186	33.5	439.0	31.2	51.7	295.1	845.7	523.5	1 441.8	69.7	219.2
5 TO 9 EMPLOYEES E5	7 909	53.2	704.1	39.5	79.7	463.5	1 310.9	798.8	2 096.6	85.7	328.9
10 TO 19 EMPLOYEES E2	7 654	104.8	1 383.2	76.7	153.2	906.0	2 495.6	1 592.6	4 050.4	168.3	613.6
20 TO 49 EMPLOYEES E1	6 450	198.2	2 688.9	146.7	295.1	1 742.2	5 139.6	3 463.7	8 487.0	307.0	1 456.4
50 TO 99 EMPLOYEES	2 632	182.0	2 482.3	129.9	261.6	1 539.2	5 027.7	3 802.9	8 703.8	341.5	1 843.0
100 TO 249 EMPLOYEES	1 854	287.8	3 901.1	195.7	392.8	2 324.6	8 661.7	7 154.0	15 504.6	467.5	3 859.1
250 TO 499 EMPLOYEES	775	270.0	3 724.1	178.8	358.1	2 170.9	8 379.6	6 981.1	15 107.0	517.3	4 020.9
500 TO 999 EMPLOYEES	453	317.2	4 590.0	201.6	398.8	2 597.9	10 214.5	9 227.2	19 148.5	594.8	5 167.0
1,000 TO 2,499 EMPLOYEES	218	325.2	5 023.2	219.8	425.8	3 028.4	12 242.2	10 296.3	22 337.5	756.5	5 045.0
2,500 OR MORE EMPLOYEES	69	311.2	5 621.7	197.9	386.1	3 230.7	12 905.1	12 691.6	25 310.5	1 094.1	4 617.9
ADMIN. RECORDS ESTABS.[2] E9	22 030	69.1	906.4	55.3	100.0	577.8	1 825.2	1 239.6	3 064.9	119.5	576.9
36 ELECTRIC, ELECTRONIC EQUIP.											
ESTABLISHMENTS, TOTAL	14 973	1 723.1	22 544.2	1 191.4	2 309.2	12 951.6	50 365.7	39 369.5	88 433.1	2 866.5	16 058.7
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	4 904	7.7	91.4	6.7	10.6	52.6	154.8	155.2	351.5	11.1	63.8
5 TO 9 EMPLOYEES E7	1 926	12.9	151.1	9.1	17.5	86.8	316.4	251.3	567.2	17.8	102.6
10 TO 19 EMPLOYEES E5	1 805	24.9	293.8	17.4	34.0	164.4	604.0	487.7	1 086.6	32.9	202.7
20 TO 49 EMPLOYEES E1	2 087	67.4	751.3	48.7	93.7	429.1	1 605.4	1 281.4	2 860.6	81.8	494.8
50 TO 99 EMPLOYEES	1 381	98.2	1 057.4	72.1	138.1	619.1	2 296.6	1 834.5	4 070.4	133.4	761.0
100 TO 249 EMPLOYEES	1 436	226.3	2 445.7	164.5	317.7	1 449.2	5 743.9	4 860.7	10 421.9	312.0	2 115.5
250 TO 499 EMPLOYEES	709	246.8	2 785.1	178.1	346.8	1 672.6	6 595.9	5 511.6	11 949.8	399.0	2 422.8
500 TO 999 EMPLOYEES	420	293.8	3 596.8	209.3	404.9	2 167.0	8 434.4	6 020.1	14 216.1	484.6	2 785.2
1,000 TO 2,499 EMPLOYEES	204	305.1	4 255.2	209.9	408.0	2 448.6	9 511.0	7 436.5	16 722.3	493.2	2 905.1
2,500 OR MORE EMPLOYEES	101	440.0	7 116.4	275.5	537.8	3 862.4	15 103.3	11 530.5	26 186.8	900.6	4 205.3
ADMIN. RECORDS ESTABS.[2] E9	6 203	31.5	377.2	22.9	42.5	211.9	764.7	584.8	1 349.5	42.5	255.2
37 TRANSPORTATION EQUIPMENT											
ESTABLISHMENTS, TOTAL[1]	10 176	1 768.2	30 673.5	1 284.4	2 612.7	20 314.3	64 291.1	103 489.6	166 954.0	4 670.9	22 240.5
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	4 032	6.2	77.9	6.0	9.7	56.6	139.7	191.3	344.3	9.2	58.0
5 TO 9 EMPLOYEES E7	1 312	8.8	109.6	7.1	13.7	78.4	199.6	245.8	445.6	12.3	73.9
10 TO 19 EMPLOYEES E4	1 179	16.0	191.4	12.5	24.1	133.6	353.8	424.5	776.0	25.5	137.2
20 TO 49 EMPLOYEES E1	1 271	40.5	476.8	31.7	61.9	323.0	897.6	1 080.8	1 963.3	70.3	337.2
50 TO 99 EMPLOYEES	820	58.1	684.4	45.4	88.4	463.7	1 368.2	1 709.5	3 028.7	79.7	542.4
100 TO 249 EMPLOYEES	685	107.2	1 293.1	82.8	159.9	868.7	2 712.0	3 281.2	5 946.9	232.8	1 081.4
250 TO 499 EMPLOYEES	378	132.1	1 643.0	103.7	203.3	1 150.2	3 582.6	4 148.4	7 655.0	166.7	1 429.3
500 TO 999 EMPLOYEES	192	133.1	1 850.4	98.8	194.3	1 237.1	3 718.4	4 255.4	7 943.5	195.9	1 588.0
1,000 TO 2,499 EMPLOYEES	146	221.2	3 682.7	170.4	336.4	2 641.5	8 276.8	10 992.8	19 223.3	519.3	2 792.0
2,500 OR MORE EMPLOYEES	161	1 044.9	20 664.3	726.0	1 520.9	13 361.4	43 042.5	77 159.9	119 627.5	3 359.2	14 201.1
ADMIN. RECORDS ESTABS.[2] E9	4 514	17.2	227.2	14.5	26.7	161.5	411.6	503.9	915.5	23.7	159.4
38 INSTRUMENTS, RELATED PRODUCTS											
ESTABLISHMENTS, TOTAL[1]	7 481	559.1	7 520.4	347.2	677.9	3 743.2	18 762.0	10 503.9	28 897.8	938.9	5 810.6
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E8	2 878	4.5	56.7	3.6	5.8	28.8	121.3	78.3	213.8	6.7	45.3
5 TO 9 EMPLOYEES E6	1 071	7.1	89.0	4.6	8.8	45.3	198.3	121.2	318.0	9.3	61.9
10 TO 19 EMPLOYEES E4	992	13.7	166.6	8.8	16.7	85.0	362.7	231.0	589.7	18.3	112.5
20 TO 49 EMPLOYEES E1	1 070	33.6	398.8	22.3	43.1	207.1	909.7	577.0	1 473.4	44.1	274.3
50 TO 99 EMPLOYEES	560	39.6	464.7	25.8	50.1	238.6	1 076.0	675.7	1 718.9	52.7	370.6
100 TO 249 EMPLOYEES	462	71.4	824.0	46.3	89.6	432.4	1 983.6	1 325.7	3 258.5	89.1	741.5
250 TO 499 EMPLOYEES	237	84.5	992.7	55.8	110.8	537.5	2 346.3	1 425.0	3 694.5	119.8	886.0
500 TO 999 EMPLOYEES	129	89.0	1 114.0	57.7	113.1	592.0	2 674.6	1 527.9	4 149.3	127.9	956.1
1,000 TO 2,499 EMPLOYEES	62	90.4	1 284.5	56.0	109.7	655.6	2 858.6	1 644.1	4 427.5	133.6	1 019.2
2,500 OR MORE EMPLOYEES	20	125.3	2 129.5	66.4	130.3	920.9	6 230.8	3 898.1	9 054.2	337.3	1 343.2
ADMIN. RECORDS ESTABS.[2] E9	3 340	13.8	173.6	9.3	17.1	85.8	393.6	221.3	615.0	18.1	132.4

See footnotes at end of table.

Table 4. Selected Statistics for Major Industry Groups by Employment Size of Establishment: 1977—Con.

Item	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
39 MISC. MANUFACTUR'G INDUSTRIES											
ESTABLISHMENTS, TOTAL[1]	17 259	440.7	4 406.4	338.7	626.7	2 745.3	10 291.0	9 061.4	19 150.7	473.6	3 614.2
ESTABLISHMENTS WITH AN AVERAGE OF-											
1 TO 4 EMPLOYEES E7	8 717	13.1	134.6	12.3	18.9	82.5	294.9	306.0	618.1	11.3	107.0
5 TO 9 EMPLOYEES E3	2 424	16.2	166.2	12.3	22.7	100.9	350.6	368.0	718.1	14.1	119.5
10 TO 19 EMPLOYEES E2	2 323	31.6	310.3	23.4	42.1	185.8	649.8	637.8	1 272.0	24.4	210.9
20 TO 49 EMPLOYEES E1	2 026	62.8	606.5	48.2	87.1	372.4	1 289.6	1 218.6	2 477.7	55.9	400.5
50 TO 99 EMPLOYEES	859	59.9	559.5	47.0	88.1	356.0	1 230.8	1 157.0	2 386.9	47.9	402.6
100 TO 249 EMPLOYEES	602	(162.8)	(1 556.4)	(126.9)	(236.9)	(994.2)	(3 698.5)	(3 308.9)	(6 932.3)	(174.8)	(1 437.4)
250 TO 499 EMPLOYEES	206	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 TO 999 EMPLOYEES	74	49.5	537.6	37.3	72.6	348.7	1 319.3	1 068.9	2 349.4	53.8	534.4
1,000 TO 2,499 EMPLOYEES	26	(44.7)	(535.4)	(31.2)	(58.3)	(305.9)	(1 457.6)	(996.3)	(2 416.3)	(91.5)	(401.9)
2,500 OR MORE EMPLOYEES	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
ADMIN. RECORDS ESTABS.[2] E9	8 061	18.9	186.3	16.5	27.3	115.4	409.9	363.3	773.2	15.0	143.8

Note: Data for administrative offices and auxiliary operations are excluded from this table.

(D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1--10 to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Data are also included in respective size classes shown.

Table 5. **Selected Statistics for Administrative Offices and Auxiliaries by Major Industry Group of Establishments Serviced: 1977**

1977 code	Major industry group and central administrative offices and auxiliaries	Establishments[1] (number)	Employees (1,000)	Total payroll[2] (million dollars)
	Manufacturing, total[1]	9,171	1,074.2	21,981.2
	Central administrative offices	7,309	694.4	14,776.4
	Research, development, and testing	1,838	202.3	4,380.9
	Warehousing	1,647	36.6	438.7
	Electronic data processing	1,739	51.2	908.8
	Other activities	3,029	89.6	1,476.4
20	Food and kindred products	1,341	102.1	1,929.1
	Central administrative offices	1,061	76.8	1,532.2
	Research, development, and testing	215	8.0	134.2
	Warehousing	270	3.9	48.6
	Electronic data processing	261	5.7	115.3
	Other activities	422	7.7	98.8
21	Tobacco manufactures	48	8.0	146.9
	Central administrative offices	36	5.5	107.4
	Research, development, and testing	9	.4	5.4
	Warehousing	14	.3	1.8
	Electronic data processing	11	.5	6.0
	Other activities	9	1.3	26.3
22	Textile mill products	375	33.2	553.0
	Central administrative offices	309	22.2	389.2
	Research, development, and testing	68	2.5	39.6
	Warehousing	82	2.3	24.5
	Electronic data processing	75	1.8	25.6
	Other activities	121	4.4	74.1
23	Apparel and other textile products	424	27.5	403.6
	Central administrative offices	353	18.6	296.9
	Research, development, and testing	38	.8	13.1
	Warehousing	113	4.3	39.3
	Electronic data processing	76	1.4	14.8
	Other activities	119	2.4	39.5
24	Lumber and wood products	320	14.5	270.2
	Central administrative offices	265	10.6	204.6
	Research, development, and testing	34	1.0	20.0
	Warehousing	56	.3	3.3
	Electronic data processing	57	.8	12.7
	Other activities	115	1.7	29.6
25	Furniture and fixtures	124	9.0	140.1
	Central administrative offices	110	6.8	107.1
	Research, development, and testing	16	.4	7.1
	Warehousing	31	.7	7.1
	Electronic data processing	31	.5	5.9
	Other activities	32	.5	12.9
26	Paper and allied products	251	37.6	902.4
	Central administrative offices	219	31.7	802.0
	Research, development, and testing	65	3.0	57.9
	Warehousing	15	.1	1.3
	Electronic data processing	61	1.6	20.6
	Other activities	59	1.2	20.6
27	Printing and publishing	644	38.9	621.4
	Central administrative offices	490	23.5	405.9
	Research, development, and testing	26	1.0	18.2
	Warehousing	66	4.1	38.5
	Electronic data processing	57	1.8	23.5
	Other activities	343	8.5	135.3
28	Chemicals and allied products	1,170	181.4	3,798.9
	Central administrative offices	857	114.1	2,470.3
	Research, development, and testing	360	46.3	953.3
	Warehousing	242	2.5	30.6
	Electronic data processing	212	7.1	120.6
	Other activities	279	11.4	224.1
29	Petroleum and coal products	287	65.3	1,562.0
	Central administrative offices	233	47.0	1,150.3
	Research, development, and testing	57	12.1	301.9
	Warehousing	30	.3	4.5
	Electronic data processing	47	4.1	68.7
	Other activities	82	1.8	36.6
30	Rubber and miscellaneous plastics products	215	25.2	458.3
	Central administrative offices	180	19.1	343.2
	Research, development, and testing	52	2.8	72.2
	Warehousing	54	.9	10.5
	Electronic data processing	44	1.0	12.2
	Other activities	69	1.4	20.2
31	Leather and leather products	103	10.8	132.3
	Central administrative offices	87	6.9	89.5
	Research, development, and testing	7	(Z)	.5
	Warehousing	40	3.1	28.9
	Electronic data processing	26	.4	5.4
	Other activities	57	.4	8.0
32	Stone, clay, and glass products	600	41.1	797.2
	Central administrative offices	511	29.9	581.0
	Research, development, and testing	107	5.0	89.0
	Warehousing	75	.4	4.7
	Electronic data processing	132	2.0	24.3
	Other activities	333	3.8	98.2
33	Primary metal industries	484	46.8	1,031.0
	Central administrative offices	346	35.1	806.9
	Research, development, and testing	95	7.3	140.0
	Warehousing	60	.5	5.0
	Electronic data processing	82	2.0	50.4
	Other activities	172	1.9	28.7
34	Fabricated metal products	549	50.1	986.5
	Central administrative offices	477	36.7	744.3
	Research, development, and testing	110	6.7	120.6
	Warehousing	73	.9	10.9
	Electronic data processing	113	2.3	42.4
	Other activities	168	3.6	68.3
35	Machinery, except electrical	754	93.1	1,884.8
	Central administrative offices	592	61.4	1,330.0
	Research, development, and testing	178	15.2	248.5
	Warehousing	146	3.7	57.4
	Electronic data processing	140	4.9	93.3
	Other activities	300	7.9	155.6
36	Electric and electronic equipment	694	140.0	2,840.9
	Central administrative offices	553	69.8	1,535.1
	Research, development, and testing	185	37.1	775.8
	Warehousing	153	4.9	68.5
	Electronic data processing	153	8.0	158.2
	Other activities	168	20.2	303.3
37	Transportation equipment	403	105.5	2,640.9
	Central administrative offices	307	50.5	1,312.5
	Research, development, and testing	108	42.8	1,159.1
	Warehousing	51	2.2	38.1
	Electronic data processing	80	3.0	65.7
	Other activities	88	7.0	65.5
38	Instruments and related products	228	32.8	691.6
	Central administrative offices	195	19.7	420.7
	Research, development, and testing	78	9.2	208.0
	Warehousing	38	.6	7.8
	Electronic data processing	44	1.7	33.7
	Other activities	43	1.5	21.4
39	Miscellaneous manufacturing industries	157	11.2	190.1
	Central administrative offices	128	8.4	147.3
	Research, development, and testing	30	.7	16.5
	Warehousing	38	.6	7.4
	Electronic data processing	37	.7	9.5
	Other activities	50	.8	9.4

(Z) Less than 50 employees.

[1]Detailed establishment data exceed totals since some establishments participate in more than one activity.

[2]Total payroll data for each industry group are actual. Detail data are estimates based on reported employment and average annual salaries determined from data collected in the 1977 Enterprise Statistics series.

Table 6. **Employment Statistics for Operating Manufacturing Establishments and Administrative Offices and Auxiliaries by Major Industry Group: 1977 and Prior Census Years**

1977 code	Major industry group and year	All establishments		Operating manufacturing establishments		Administrative offices and auxiliaries	
		Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)
	All industries....1977..	19,590.1	264,013.1	18,515.9	242,031.9	1,074.2	21,981.2
	1972..	19,028.7	174,205.5	18,034.4	160,433.2	994.3	13,772.3
	1967..	19,322.9	132,208.5	18,492.3	123,480.6	830.9	8,727.9
	1963..	16,958.4	99,898.8	16,231.9	93,283.3	726.5	6,615.5
20	Food and kindred products....1977..	1,622.1	20,472.7	1,520.0	18,543.6	102.1	1,929.1
	1972..	1,663.0	14,098.0	1,569.3	12,920.2	93.7	1,177.8
	1967..	1,725.9	10,841.5	1,649.6	10,076.8	76.3	764.7
	1963..	1,714.6	9,233.9	1,643.1	8,637.2	71.5	596.8
21	Tobacco manufactures....1977..	68.6	897.6	60.6	750.7	8.0	146.9
	1972..	74.3	595.7	66.3	502.1	8.0	93.6
	1967..	83.1	451.2	75.1	376.8	8.0	74.4
	1963..	83.8	381.3	77.3	330.5	6.5	50.8
22	Textile mill products....1977..	908.9	8,434.4	875.7	7,881.4	33.2	553.0
	1972..	983.8	6,413.0	952.6	6,051.0	31.2	362.0
	1967..	954.0	4,610.6	929.0	4,390.9	25.0	219.7
	1963..	883.1	3,538.0	863.2	3,385.0	19.9	152.9
23	Apparel and other textile products....1977..	1,361.8	10,062.2	1,334.3	9,658.6	27.5	403.6
	1972..	1,394.0	7,478.1	1,368.3	7,212.0	25.7	266.1
	1967..	1,372.9	5,722.2	1,356.7	5,582.2	16.2	140.0
	1963..	1,290.5	4,508.8	1,279.5	4,423.0	11.0	85.8
24	Lumber and wood products....1977..	706.9	7,694.9	692.4	7,424.7	14.5	270.2
	1972..	703.4	5,131.3	691.0	4,985.6	12.4	145.7
	1967..	561.7	2,872.6	554.0	2,798.9	7.7	73.7
	1963..	568.7	2,385.4	563.1	2,338.7	5.6	46.7
25	Furniture and fixtures....1977..	472.8	4,588.6	463.8	4,448.5	9.0	140.1
	1972..	468.5	3,286.3	462.0	3,205.4	6.5	80.9
	1967..	430.0	2,305.1	425.3	2,258.3	4.7	46.8
	1963..	381.2	1,767.1	376.5	1,726.7	4.7	40.4
26	Paper and allied products....1977..	666.3	9,845.3	628.7	8,942.9	37.6	902.4
	1972..	667.8	6,465.5	633.4	5,992.1	34.4	473.4
	1967..	670.7	4,786.7	638.9	4,436.2	31.8	350.5
	1963..	613.8	3,746.4	588.0	3,508.2	25.8	238.2
27	Printing and publishing....1977..	1,131.1	14,645.9	1,092.2	14,024.5	38.9	621.4
	1972..	1,085.5	10,162.1	1,056.5	9,831.2	29.0	330.9
	1967..	1,052.1	7,323.5	1,031.0	7,151.5	21.1	172.0
	1963..	925.1	5,611.5	913.2	5,514.8	11.8	96.7
28	Chemicals and allied products....1977..	1,061.6	17,630.7	880.2	13,831.8	181.4	3,798.9
	1972..	995.0	10,908.2	836.5	8,730.5	158.5	2,177.7
	1967..	982.7	7,932.1	841.4	6,443.0	141.3	1,489.1
	1963..	853.1	6,013.6	737.4	4,969.8	115.7	1,043.8
29	Petroleum and coal products....1977..	212.1	4,258.2	146.8	2,696.2	65.3	1,562.0
	1972..	209.5	2,633.7	139.5	1,637.5	70.0	996.2
	1967..	210.7	1,960.5	141.6	1,216.1	69.1	744.4
	1963..	219.9	1,762.9	153.5	1,133.8	66.4	629.1
30	Rubber and miscellaneous plastics products...1977..	746.5	8,994.3	721.3	8,536.0	25.2	458.3
	1972..	635.1	5,381.9	617.7	5,165.2	17.4	216.7
	1967..	531.0	3,421.8	516.7	3,286.5	14.3	135.3
	1963..	426.7	2,470.8	415.0	2,364.0	11.8	106.7
31	Leather and leather products....1977..	253.3	1,992.0	242.5	1,859.7	10.8	132.3
	1972..	285.5	1,706.2	273.4	1,589.3	12.1	116.9
	1967..	336.6	1,518.2	328.7	1,458.8	7.9	59.4
	1963..	335.0	1,278.0	327.5	1,227.8	7.6	50.2
32	Stone, clay, and glass products....1977..	654.8	8,740.3	613.7	7,943.1	41.1	797.2
	1972..	660.7	6,035.1	623.2	5,546.9	37.5	488.2
	1967..	620.6	4,133.8	589.9	3,825.5	30.7	308.3
	1963..	602.8	3,462.5	573.9	3,212.5	28.9	250.0
33	Primary metal products....1977..	1,160.4	19,783.5	1,113.6	18,752.5	46.8	1,031.0
	1972..	1,185.3	12,784.8	1,142.8	12,166.5	42.5	618.3
	1967..	1,329.1	10,395.7	1,281.0	9,850.9	48.1	544.8
	1963..	1,167.0	8,149.0	1,126.5	7,734.1	40.4	414.8
34	Fabricated metal products....1977..	1,607.4	22,045.4	1,557.3	21,058.9	50.1	986.5
	1972..	1,533.6	14,346.0	1,493.3	13,802.6	40.3	525.4
	1967..	1,375.1	9,670.0	1,341.8	9,319.5	33.3	350.5
	1963..	1,110.6	6,644.0	1,082.1	6,387.5	28.5	256.5

See footnotes at end of table.

Table 6. **Employment Statistics for Operating Manufacturing Establishments and Administrative Offices and Auxiliaries by Major Industry Group: 1977 and Prior Census Years**—Con.

1977 code	Major industry group and year	All establishments		Operating manufacturing establishments		Administrative offices and auxiliaries	
		Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)	Employees (1,000)	Payroll (million dollars)
35	Machinery, except electrical.....1977..	2,176.4	32,442.3	2,083.3	30,557.5	93.1	1,884.8
	1972..	1,930.0	20,047.9	1,827.7	18,523.3	102.3	1,524.6
	1967..	1,929.4	14,930.2	1,864.5	14,226.3	64.9	703.9
	1963..	1,520.6	10,146.6	1,459.4	9,571.0	61.2	575.6
36	Electric and electronic equipment.....1977..	1,863.1	25,385.1	1,723.1	22,544.2	140.0	2,840.9
	1972..	1,800.1	17,189.4	1,661.3	15,189.0	138.8	2,000.4
	1967..	1,980.6	14,106.5	1,874.9	12,968.0	105.7	1,138.5
	1963..	1,612.2	10,207.1	1,511.8	9,284.3	100.4	922.5
37	Transportation equipment.....1977..	1,873.7	33,291.4	1,768.2	30,650.5	105.5	2,640.9
	1972..	1,815.2	21,526.6	1,719.0	19,880.0	96.2	1,646.6
	1967..	1,935.5	16,342.4	1,834.1	15,173.7	101.4	1,168.7
	1963..	1,689.7	12,735.6	1,601.2	11,858.2	88.6	877.4
38	Instruments and related products.....1977..	591.9	8,212.0	559.1	7,520.4	32.8	691.6
	1972..	480.8	4,677.9	453.2	4,286.2	27.6	391.7
	1967..	409.6	2,980.8	394.3	2,821.6	15.3	159.2
	1963..	316.4	2,010.4	305.5	1,912.5	11.0	98.0
39, 19	Miscellaneous manufacturing industries and ordnance and accessories.....1977[1].	451.9	4,596.5	440.7	4,406.4	11.2	190.1
	1972[1].	456.0	3,316.3	445.6	3,179.8	10.4	136.5
	1967..	831.6	5,903.5	823.5	5,819.4	8.1	84.1
	1963..	645.8	3,851.3	639.3	3,794.5	9.2	82.3

[1]Excludes ordnance and accessories. In the 1972 SIC revision, major group 19 was eliminated as a separate major industry group and its industries were reclassified to major groups 34, 36, 37, and 38.

Table 7. Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
	All operating manufacturing establishments:											
	1977 Census	350,757	113,843	18,515.9	242,031.9	13,691.0	26,686.6	157,163.6	585,165.6	782,417.7	1,358,526.4	47,459.0
	1976 ASM	(NA)	(NA)	17,682.7	212,997.8	13,052.0	25,354.2	137,565.4	511,471.1	681,194.1	1,185,695.3	40,669.4
	1975 ASM	(NA)	(NA)	17,173.8	190,504.1	12,569.1	24,069.4	121,429.2	442,485.1	597,327.2	1,039,377.4	37,262.0
	1974 ASM	(NA)	(NA)	18,712.8	190,574.3	13,970.9	27,239.3	124,983.2	452,477.6	581,710.8	1,017,846.9	35,698.7
	1973 ASM	(NA)	(NA)	18,869.7	178,316.5	14,232.8	28,096.9	118,332.6	405,583.6	478,169.6	875,433.2	26,972.7
	1972 Census	312,671	109,950	18,034.4	160,433.2	13,527.9	26,699.2	105,501.8	353,994.0	407,402.1	756,534.3	24,077.7
	1971 ASM	(NA)	(NA)	17,426.3	144,246.3	12,874.9	25,265.9	93,231.7	314,138.4	356,016.9	670,970.5	20,940.7
	1970 ASM	(NA)	(NA)	18,289.5	141,886.4	13,528.0	26,669.3	91,609.0	300,227.6	336,551.6	634,322.1	22,164.3
	1969 ASM	(NA)	(NA)	19,155.6	142,645.1	14,357.8	28,599.8	93,459.6	304,440.7	341,724.5	642,635.8	22,291.4
	1968 ASM	(NA)	(NA)	18,681.0	132,568.4	14,041.2	28,156.8	87,480.4	285,058.9	320,698.0	603,220.1	20,613.1
	1967 Census	305,680	107,138	18,492.0	123,480.6	13,955.3	27,837.6	81,393.6	261,983.8	298,513.7	557,397.8	21,503.0
	1966 ASM	(NA)	(NA)	18,200.3	117,157.4	13,826.5	28,102.5	78,256.4	250,880.1	293,633.8	538,736.9	20,235.8
	1965 ASM	(NA)	(NA)	17,250.5	106,643.2	13,076.0	26,567.8	71,361.5	226,939.9	268,385.8	492,005.7	16,615.0
	1964 ASM	(NA)	(NA)	16,485.7	98,685.3	12,403.3	25,245.5	65,838.9	206,193.6	244,080.5	447,985.1	13,294.3
	1963 Census	306,617	99,352	16,231.9	93,283.3	12,232.0	24,509.4	62,093.6	192,082.9	(NA)	420,528.1	11,370.0
20	Food and kindred products:											
	1977 Census	26,656	11,038	1,520.0	18,543.6	1,072.0	2,112.4	11,730.7	56,062.2	136,963.7	192,911.6	4,214.9
	1976 ASM	(NA)	(NA)	1,525.2	15,855.7	1,054.8	2,067.1	9,836.8	48,094.7	123,788.0	172,157.6	3,433.5
	1975 ASM	(NA)	(NA)	1,527.3	15,891.2	1,056.8	2,071.4	9,861.2	48,142.0	123,953.5	172,510.4	3,399.4
	1974 ASM	(NA)	(NA)	1,553.0	14,787.9	1,074.8	2,125.8	9,196.3	44,947.5	118,330.6	162,104.2	3,006.1
	1973 ASM	(NA)	(NA)	1,559.9	13,670.3	1,080.5	2,157.8	8,470.5	39,692.7	97,433.6	135,582.5	2,413.8
	1972 Census	28,184	12,326	1,569.4	12,921.8	1,085.4	2,166.9	8,007.4	35,616.6	79,800.0	115,060.3	2,355.1
	1971 ASM	(NA)	(NA)	1,574.1	12,179.9	1,072.7	2,145.4	7,437.5	34,109.8	69,777.5	103,630.9	2,245.0
	1970 ASM	(NA)	(NA)	1,619.0	11,698.1	1,104.7	2,216.2	7,095.5	32,289.0	66,455.8	98,533.0	2,143.8
	1969 ASM	(NA)	(NA)	1,652.5	11,135.3	1,131.7	2,265.0	6,782.1	29,997.0	63,608.4	93,379.9	1,916.6
	1968 ASM	(NA)	(NA)	1,632.4	10,496.6	1,114.3	2,233.5	6,389.8	28,201.7	59,307.0	87,327.4	1,739.7
	1967 Census	32,518	13,514	1,649.6	10,076.8	1,121.7	2,259.4	6,062.6	26,620.9	57,540.6	83,975.2	1,730.1
	1966 ASM	(NA)	(NA)	1,642.7	9,542.1	1,098.0	2,239.5	5,675.9	24,895.9	55,071.5	79,750.9	1,692.0
	1965 ASM	(NA)	(NA)	1,641.2	9,161.7	1,095.2	2,233.4	5,445.5	23,537.5	50,805.5	74,248.4	1,475.5
	1964 ASM	(NA)	(NA)	1,646.2	9,027.8	1,095.4	2,269.7	5,367.0	25,053.2	48,675.0	71,597.5	1,412.9
	1963 Census	37,521	14,113	1,643.1	8,637.2	1,098.1	2,228.0	5,159.4	21,825.5	46,784.4	68,466.5	1,249.2
21	Tobacco manufactures:											
	1977 Census	228	123	60.6	750.7	50.4	92.6	570.7	4,334.1	4,729.8	9,050.6	181.5
	1976 ASM	(NA)	(NA)	66.2	654.6	56.3	104.2	513.0	3,721.6	4,342.3	8,059.9	144.9
	1975 ASM	(NA)	(NA)	66.2	654.6	56.3	104.2	513.0	3,722.0	4,395.8	8,113.4	148.4
	1974 ASM	(NA)	(NA)	67.4	604.4	58.0	106.6	476.6	3,179.1	3,966.0	7,139.9	185.4
	1973 ASM	(NA)	(NA)	68.5	557.3	59.2	110.5	440.2	2,900.1	3,446.6	6,340.7	180.4
	1972 Census	272	154	66.3	502.1	57.4	106.8	400.9	2,637.2	3,281.1	5,920.2	133.2
	1971 ASM	(NA)	(NA)	67.1	470.5	58.5	109.2	376.3	2,559.9	2,973.0	5,527.9	94.4
	1970 ASM	(NA)	(NA)	71.4	447.8	62.7	118.5	361.5	2,489.4	2,859.2	5,349.9	55.9
	1969 ASM	(NA)	(NA)	72.2	411.3	63.2	117.3	328.5	2,221.0	2,766.4	4,992.2	60.6
	1968 ASM	(NA)	(NA)	73.9	396.1	65.2	120.6	323.0	2,140.7	2,800.0	4,937.2	50.4
	1967 Census	329	195	75.1	376.9	66.1	125.5	303.6	2,032.0	2,871.4	4,903.6	53.0
	1966 ASM	(NA)	(NA)	72.4	356.2	64.1	122.3	289.4	1,872.0	2,908.8	4,772.7	58.2
	1965 ASM	(NA)	(NA)	74.6	349.4	66.2	124.9	284.9	1,765.7	2,883.5	4,648.3	59.2
	1964 ASM	(NA)	(NA)	78.8	352.9	70.2	138.3	290.7	1,772.1	2,883.0	4,651.7	58.8
	1963 Census	394	231	77.3	330.5	68.6	132.0	271.5	1,680.6	2,836.5	4,520.0	53.8
22	Textile mill products:											
	1977 Census	7,202	4,131	875.7	7,881.4	764.6	1,523.1	6,202.8	16,104.5	24,753.2	40,550.5	1,223.5
	1976 ASM	(NA)	(NA)	835.0	6,396.9	724.6	1,381.5	4,913.7	12,044.3	18,801.4	31,063.6	996.7
	1975 ASM	(NA)	(NA)	838.4	6,418.2	727.7	1,386.8	4,931.6	12,109.9	18,917.0	31,273.7	1,002.0
	1974 ASM	(NA)	(NA)	932.6	6,683.7	813.0	1,588.8	5,194.5	13,199.0	20,051.6	32,892.2	1,169.9
	1973 ASM	(NA)	(NA)	980.2	6,604.9	862.6	1,750.5	5,237.1	13,016.8	18,011.0	31,072.7	1,092.0
	1972 Census	7,203	4,505	952.7	6,051.9	836.2	1,726.0	4,807.2	11,718.0	16,505.1	28,071.5	1,127.5
	1971 ASM	(NA)	(NA)	906.8	5,330.1	794.4	1,605.2	4,212.1	9,995.2	14,023.5	24,029.8	872.8
	1970 ASM	(NA)	(NA)	924.5	5,082.0	812.9	1,628.6	4,035.6	9,333.8	13,261.2	22,610.6	811.1
	1969 ASM	(NA)	(NA)	968.4	5,159.1	859.2	1,747.6	4,129.0	9,604.7	13,415.9	22,977.7	849.2
	1968 ASM	(NA)	(NA)	959.1	4,849.6	854.4	1,758.1	3,944.7	9,184.4	13,067.0	21,969.2	690.6
	1967 Census	7,080	4,453	929.0	4,390.9	828.2	1,689.7	3,556.5	8,153.2	11,741.4	19,815.2	733.1
	1966 ASM	(NA)	(NA)	927.3	4,243.5	828.0	1,728.2	3,445.9	8,028.4	11,723.7	19,599.9	887.3
	1965 ASM	(NA)	(NA)	893.6	3,911.5	797.9	1,670.8	3,189.2	7,469.4	10,973.6	18,292.5	618.1
	1964 ASM	(NA)	(NA)	875.5	3,646.6	781.7	1,626.4	2,962.9	6,671.8	10,370.9	16,999.0	503.5
	1963 Census	7,104	4,368	863.2	3,385.0	775.3	1,568.1	2,768.4	6,123.0	9,658.7	15,740.5	382.4
23	Apparel and other textile products:											
	1977 Census	26,505	11,932	1,334.3	9,658.6	1,156.6	2,037.6	7,252.8	19,671.3	20,865.5	40,245.1	456.7
	1976 ASM	(NA)	(NA)	1,214.3	7,699.8	1,058.8	1,890.6	5,776.5	14,749.0	16,338.8	31,430.2	380.7
	1975 ASM	(NA)	(NA)	1,212.5	7,688.7	1,056.7	1,885.0	5,762.2	13,381.2	15,959.7	31,083.9	416.2
	1974 ASM	(NA)	(NA)	1,317.3	7,642.1	1,147.2	2,040.5	5,752.6	14,925.8	15,774.2	30,551.0	390.5
	1973 ASM	(NA)	(NA)	1,400.2	7,706.6	1,227.7	2,191.4	5,841.2	14,618.2	15,721.7	30,083.8	387.3
	1972 Census	24,438	12,226	1,368.3	7,212.0	1,198.3	2,161.1	5,461.1	13,487.5	14,532.0	27,809.2	363.5
	1971 ASM	(NA)	(NA)	1,318.8	6,499.8	1,148.9	2,054.4	4,942.7	12,448.4	12,672.4	25,024.5	336.2
	1970 ASM	(NA)	(NA)	1,341.4	6,267.4	1,171.2	2,119.4	4,806.5	11,597.5	11,948.1	23,501.8	299.6
	1969 ASM	(NA)	(NA)	1,381.1	6,402.2	1,209.5	2,202.5	4,944.0	11,571.1	12,692.7	24,283.2	310.8
	1968 ASM	(NA)	(NA)	1,356.0	6,012.3	1,194.0	2,176.8	4,680.6	10,880.9	12,002.5	22,648.9	267.2
	1967 Census	26,393	12,705	1,356.7	5,582.2	1,200.4	2,178.6	4,340.6	10,064.4	11,322.0	21,326.9	208.3
	1966 ASM	(NA)	(NA)	1,359.8	5,207.1	1,202.2	2,213.1	4,037.8	9,180.5	10,943.1	19,971.0	205.8
	1965 ASM	(NA)	(NA)	1,335.2	4,955.2	1,182.7	2,179.3	3,877.5	8,683.6	10,475.8	18,953.2	167.9
	1964 ASM	(NA)	(NA)	1,302.8	4,684.4	1,147.3	2,016.8	3,639.6	8,163.2	9,819.4	17,901.1	122.8
	1963 Census	28,457	13,011	1,279.5	4,423.0	1,132.9	2,052.6	3,482.3	7,861.0	9,327.3	17,096.9	128.6

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**–Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
24	Lumber and wood products:											
	1977 Census	37,302	7,056	692.4	7,424.7	594.8	1,147.6	5,795.0	16,222.8	23,918.7	39,919.4	1,562.6
	1976 ASM	(NA)	(NA)	588.1	5,231.3	505.9	945.9	4,050.1	10,355.6	14,623.5	25,094,5	1,264.0
	1975 ASM	(NA)	(NA)	591.7	5,268.6	509.0	951.1	4,079.1	10,455.8	14,652.7	25,193.7	1,281.6
	1974 ASM	(NA)	(NA)	674.8	5,490.1	582.5	1,120.7	4,293.5	11,561.2	15,600.5	26,852.6	1,357.2
	1973 ASM	(NA)	(NA)	722.4	5,470.5	628.4	1,213.8	4,311.1	12,357.2	15,843.8	27,980.6	953.3
	1972 Census	33,948	6,867	691.0	4,983.4	601.1	1,167.5	3,932.9	10,309.4	13,592.8	23,816.0	930.9
	1971 ASM	(NA)	(NA)	530.1	3,461.8	465.2	909.3	2,781.9	6,760.9	8,173.4	14,930.8	716.3
	1970 ASM	(NA)	(NA)	541.8	3,240.5	474.5	925.1	2,591.4	5,869.0	7,214.6	13,044.3	534.9
	1969 ASM	(NA)	(NA)	566.2	3,245.9	502.0	986.0	2,629.8	6,330.6	7,760.6	14,003.9	589.7
	1968 ASM	(NA)	(NA)	551.6	3,019.2	491.1	972.8	2,471.1	5,915.5	7,024.4	12,870.1	483.7
	1967 Census	36,795	5,803	554.0	2,789.9	495.7	977.0	2,290.6	4,973.4	6,231.6	11,205.2	426.0
	1966 ASM	(NA)	(NA)	571.8	2,692.5	506.3	1,015.4	2,214.1	4,791.2	5,995.6	10,720.4	485.2
	1965 ASM	(NA)	(NA)	571.8	2,585.7	506.6	1,009.0	2,123.5	4,473.6	5,765.3	10,298.0	482.1
	1964 ASM	(NA)	(NA)	559.2	2,435.7	490.4	985.3	2,047.8	4,364.9	5,567.5	9,881.8	362.0
	1963 Census	36,150	5,765	563.1	2,338.7	497.4	978.7	1,943.3	4,020.6	5,187.0	9,200.0	394.7
25	Furniture and fixtures:											
	1977 Census	10,235	3,588	463.8	4,448.3	383.6	736.4	3,191.8	8,921.7	8,187.4	16,978.0	388.7
	1976 ASM	(NA)	(NA)	395.8	3,310.1	324.9	605.3	2,339.4	6,290.1	5,950.6	12,372.8	251.6
	1975 ASM	(NA)	(NA)	397.8	3,322.6	326.6	611.0	2,349.3	6,310.6	5,984.8	12,420.7	255.0
	1974 ASM	(NA)	(NA)	459.3	3,569.7	380.6	732.1	2,577.3	6,983.4	6,360.4	13,197.3	350.9
	1973 ASM	(NA)	(NA)	478.7	3,532.2	404.3	790.5	2,561.0	6,735.5	5,981.1	12,609.5	343.8
	1972 Census	9,232	3,646	461.6	3,202.1	383.8	755.6	2,321.3	6,089.5	5,327.8	11,308.6	306.2
	1971 ASM	(NA)	(NA)	435.5	2,820.9	360.1	710.5	2,034.0	5,226.9	4,559.4	9,753.5	196.2
	1970 ASM	(NA)	(NA)	436.9	2,691.2	361.4	715.0	1,937.6	4,875.9	4,216.5	9,074.8	231.0
	1969 ASM	(NA)	(NA)	455.5	2,693.0	381.3	761.2	1,968.0	5,030.6	4,278.3	9,215.6	189.5
	1968 ASM	(NA)	(NA)	433.4	2,452.7	364.3	733.3	1,792.8	4,561.6	3,945.2	8,457.7	177.7
	1967 Census	10,008	3,449	425.3	2,258.3	357.5	715.7	1,653.7	4,169.5	3,619.6	7,749.8	198.0
	1966 ASM	(NA)	(NA)	428.6	2,188.1	360.7	735.0	1,621.2	3,989.9	3,609.1	7,537.0	185.6
	1965 ASM	(NA)	(NA)	407.1	2,013.4	341.7	698.8	1,486.6	3,612.4	3,290.2	6,879.7	151.1
	1964 ASM	(NA)	(NA)	388.2	1,844.5	323.8	663.0	1,374.6	3,226.9	3,110.3	6,309.4	108.2
	1963 Census	10,478	3,313	376.5	1,726.7	314.8	639.7	1,290.0	3,068.3	2,836.2	5,884.1	110.2
26	Paper and allied products:											
	1977 Census	6,545	3,999	628.7	8,942.9	486.3	985.9	6,323.1	22,170.9	30,148.2	52,085.7	3,295.0
	1976 ASM	(NA)	(NA)	588.6	6,990.4	453.7	900.6	4,872.7	17,943.7	23,792.0	41,711.5	2,718.0
	1975 ASM	(NA)	(NA)	589.5	6,984.5	454.4	902.5	4,873.4	17,926.8	23,818.6	41,743.1	2,718.3
	1974 ASM	(NA)	(NA)	645.9	6,955.0	507.4	1,032.2	4,995.0	18,957.2	23,161.9	41,665.3	2,208.3
	1973 ASM	(NA)	(NA)	645.4	6,481.9	509.0	1,056.1	4,695.4	15,166.0	17,654.2	32,752.4	1,529.6
	1972 Census	6,038	3,956	633.4	5,992.1	498.8	1,040.5	4,320.2	13,064.1	15,240.5	28,261.9	1,335.3
	1971 ASM	(NA)	(NA)	631.9	5,536.8	494.7	1,024.7	3,950.6	11,682.1	13,840.0	25,458.1	1,197.4
	1970 ASM	(NA)	(NA)	659.0	5,374.1	519.9	1,075.8	3,849.9	11,590.3	13,288.7	24,800.5	1,397.4
	1969 ASM	(NA)	(NA)	669.9	5,200.0	530.9	1,128.0	3,757.3	11,426.4	13,091.3	24,426.5	1,420.7
	1968 ASM	(NA)	(NA)	642.5	4,749.5	510.2	1,086.2	3,436.0	10,465.5	11,902.6	22,307.8	1,238.3
	1967 Census	5,890	3,813	638.9	4,436.2	507.7	1,071.2	3,205.5	9,756.3	11,292.2	20,969.9	1,585.3
	1966 ASM	(NA)	(NA)	633.9	4,235.9	503.2	1,075.6	3,070.8	9,417.2	11,112.8	20,413.7	1,421.9
	1965 ASM	(NA)	(NA)	609.6	3,895.6	484.5	1,029.3	2,829.0	8,464.1	10,170.0	18,578.5	1,185.6
	1964 ASM	(NA)	(NA)	592.9	3,685.6	470.8	1,007.3	2,678.3	7,805.7	9,460.2	17,194.5	901.9
	1963 Census	5,713	3,552	588.0	3,508.2	467.8	988.6	2,551.1	7,395.7	9,001.4	16,357.1	708.5
27	Printing and publishing:											
	1977 Census	49,767	9,132	1,092.2	14,024.5	625.8	1,152.8	7,322.1	31,979.5	17,794.7	49,716.2	1,597.8
	1976 ASM	(NA)	(NA)	1,070.2	11,655.2	626.2	1,138.1	6,219.9	24,641.0	13,538.5	38,125.1	1,174.6
	1975 ASM	(NA)	(NA)	1,072.8	11,675.3	629.8	1,144.6	6,252.8	24,503.1	13,562.5	38,135.3	1,184.4
	1974 ASM	(NA)	(NA)	1,075.7	11,139.3	639.1	1,189.2	6,131.0	23,610.3	12,526.7	35,822.4	1,140.9
	1973 ASM	(NA)	(NA)	1,083.5	10,523.3	649.2	1,203.2	5,830.1	21,871.2	11,071.7	32,854.7	1,089.5
	1972 Census	42,102	8,618	1,056.1	9,826.9	637.4	1,180.7	5,459.3	20,197.1	10,043.3	30,132.4	1,047.2
	1971 ASM	(NA)	(NA)	1,049.1	8,975.9	626.3	1,192.0	5,010.1	18,086.4	8,861.4	26,887.3	941.9
	1970 ASM	(NA)	(NA)	1,077.2	8,682.2	652.9	1,265.1	4,903.3	17,232.4	8,557.1	25,756.5	872.8
	1969 ASM	(NA)	(NA)	1,090.7	8,337.7	666.5	1,261.6	4,701.8	16,793.4	8,540.9	25,332.7	853.3
	1968 ASM	(NA)	(NA)	1,040.0	7,627.0	635.9	1,204.1	4,279.7	15,328.7	7,907.1	23,190.4	756.7
	1967 Census	37,989	8,035	1,031.0	7,151.5	631.6	1,196.1	4,011.3	14,355.1	7,518.5	21,738.4	788.1
	1966 ASM	(NA)	(NA)	1,017.6	6,751.0	619.1	1,208.7	3,831.5	13,264.5	7,114.9	20,201.7	708.5
	1965 ASM	(NA)	(NA)	982.4	6,269.2	597.3	1,156.3	3,574.9	12,098.8	6,599.6	18,620.3	542.7
	1964 ASM	(NA)	(NA)	935.0	5,847.6	569.7	1,123.6	3,349.5	11,192.1	6,185.5	17,337.1	464.5
	1963 Census	38,090	7,215	913.2	5,514.8	559.8	1,083.2	3,191.0	10,476.4	5,777.3	16,165.7	463.9
28	Chemicals and allied products:											
	1977 Census	12,173	4,602	880.2	13,839.3	543.8	1,089.9	7,446.2	56,720.6	62,293.8	118,153.6	8,198.9
	1976 ASM	(NA)	(NA)	842.0	11,227.0	509.8	1,000.8	5,857.7	44,976.3	45,150.6	89,721.2	6,353.1
	1975 ASM	(NA)	(NA)	848.1	11,303.8	511.2	1,003.4	5,870.5	45,116.0	45,141.8	89,847.8	6,382.4
	1974 ASM	(NA)	(NA)	865.5	10,547.3	542.0	1,084.7	5,697.0	44,488.1	41,467.3	83,801.0	4,957.2
	1973 ASM	(NA)	(NA)	852.4	9,440.3	535.1	1,075.3	5,149.3	36,239.4	28,595.7	65,008.0	3,186.2
	1972 Census	11,425	4,431	836.5	8,730.5	525.0	1,053.7	4,753.9	32,413.9	25,085.5	57,349.6	2,728.4
	1971 ASM	(NA)	(NA)	848.9	8,259.9	528.6	1,060.5	4,451.2	29,431.5	22,489.8	51,873.1	2,937.7
	1970 ASM	(NA)	(NA)	881.0	8,003.8	555.7	1,120.6	4,327.0	27,929.6	21,781.8	49,355.2	3,110.7
	1969 ASM	(NA)	(NA)	882.6	7,602.5	565.6	1,150.9	4,181.1	27,318.9	21,281.1	48,269.8	2,843.4
	1968 ASM	(NA)	(NA)	856.3	6,938.5	550.8	1,116.0	3,845.4	25,810.4	19,984.0	45,622.4	2,788.7
	1967 Census	11,799	4,348	841.4	6,443.0	541.4	1,086.1	3,555.2	23,550.1	18,821.2	42,148.3	2,936.1
	1966 ASM	(NA)	(NA)	822.4	6,129.3	528.5	1,077.4	3,400.2	22,655.6	18,516.8	40,780.4	2,898.6
	1965 ASM	(NA)	(NA)	780.3	5,594.4	502.4	1,022.5	3,104.8	20,955.6	16,804.5	37,478.8	2,482.0
	1964 ASM	(NA)	(NA)	749.2	5,244.3	479.9	986.0	2,927.5	19,165.8	15,218.4	34,268.1	1,862.2
	1963 Census	11,996	3,985	737.4	4,969.8	474.1	963.4	2,779.9	17,586.1	14,255.1	31,772.7	1,545.7

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**—Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
29	Petroleum and coal products:											
	1977 Census	2,206	773	146.8	2,696.2	101.1	207.9	1,765.4	16,377.6	81,655.4	97,452.7	2,261.3
	1976 ASM	(NA)	(NA)	141.1	2,147.4	97.9	197.4	1,357.3	10,499.5	59,198.4	69,484.6	2,417.8
	1975 ASM	(NA)	(NA)	141.1	2,143.6	98.0	197.6	1,355.8	10,090.2	59,099.4	68,969.2	2,328.4
	1974 ASM	(NA)	(NA)	145.6	1,919.9	101.4	207.9	1,240.9	9,951.1	50,140.5	58,875.8	1,845.1
	1973 ASM	(NA)	(NA)	136.5	1,716.0	95.8	193.6	1,110.4	7,740.2	27,421.1	34,899.0	1,107.0
	1972 Census	2,016	720	139.5	1,637.5	97.9	200.5	1,064.0	5,793.1	22,762.5	28,694.7	1,154.2
	1971 ASM	(NA)	(NA)	141.3	1,564.1	97.1	197.6	993.5	5,616.8	21,460.7	26,935.2	1,304.0
	1970 ASM	(NA)	(NA)	143.8	1,487.2	99.6	204.9	941.6	5,477.9	19,493.5	24,882.9	1,217.6
	1969 ASM	(NA)	(NA)	141.9	1,368.7	98.1	196.7	857.1	5,703.3	18,720.5	24,392.9	1,071.6
	1968 ASM	(NA)	(NA)	141.0	1,284.3	98.4	201.3	825.1	5,567.1	17,664.3	23,190.0	1,064.9
	1967 Census	1,880	704	141.7	1,216.2	99.2	202.1	786.3	5,425.9	16,748.4	22,043.4	999.3
	1966 ASM	(NA)	(NA)	139.8	1,128.0	99.1	198.0	741.7	4,753.8	15,652.5	20,419.7	668.7
	1965 ASM	(NA)	(NA)	142.4	1,107.4	101.6	203.7	732.6	4,131.3	14,973.6	19,111.4	603.5
	1964 ASM	(NA)	(NA)	148.4	1,127.1	105.4	213.6	743.2	3,780.4	14,570.2	18,357.5	412.6
	1963 Census	1,839	689	153.5	1,133.9	109.4	216.7	745.1	3,713.2	14,291.5	17,994.7	413.7
30	Rubber and miscellaneous plastics products:											
	1977 Census	11,943	5,294	721.3	8,536.0	563.7	1,110.6	5,841.6	19,740.0	20,217.8	39,552.8	1,645.3
	1976 ASM	(NA)	(NA)	585.0	5,922.6	451.0	873.1	3,984.6	13,599.3	13,610.2	27,191.2	1,139.9
	1975 ASM	(NA)	(NA)	587.4	5,944.9	453.0	877.8	4,002.1	13,674.2	13,688.0	27,316.5	1,152.5
	1974 ASM	(NA)	(NA)	661.3	6,203.1	522.6	1,024.9	4,303.3	14,826.2	13,628.2	27,902.2	1,457.0
	1973 ASM	(NA)	(NA)	672.0	5,812.3	532.0	1,041.7	4,080.1	13,439.6	11,058.3	24,383.6	1,305.0
	1972 Census	9,237	4,188	617.7	5,165.2	486.8	968.3	3,605.0	11,653.3	9,466.1	20,923.7	1,059.6
	1971 ASM	(NA)	(NA)	543.5	4,285.7	422.2	844.4	2,968.4	9,521.2	7,541.6	17,043.7	723.8
	1970 ASM	(NA)	(NA)	545.8	3,998.6	426.9	849.2	2,759.1	8,502.7	7,038.3	15,471.4	828.4
	1969 ASM	(NA)	(NA)	567.4	4,026.0	450.8	915.5	2,846.4	8,431.1	7,324.6	15,637.4	856.6
	1968 ASM	(NA)	(NA)	541.9	3,705.4	430.1	875.4	2,624.1	7,730.4	6,799.1	14,377.4	760.0
	1967 Census	6,456	3,122	516.7	3,286.5	410.1	815.5	2,312.5	6,799.5	5,974.4	12,758.6	677.2
	1966 ASM	(NA)	(NA)	491.8	3,072.0	390.6	799.9	2,174.3	6,277.1	5,825.5	11,976.0	599.9
	1965 ASM	(NA)	(NA)	465.2	2,813.9	368.8	747.1	1,985.3	5,681.4	5,276.5	10,863.2	516.0
	1964 ASM	(NA)	(NA)	430.1	2,546.9	340.7	695.9	1,798.5	4,990.9	4,789.3	9,723.2	399.4
	1963 Census	5,728	2,449	415.0	2,364.0	328.8	658.5	1,672.4	4,654.0	4,480.1	9,116.2	343.5
31	Leather and leather products:											
	1977 Census	3,075	1,486	242.5	1,859.7	211.5	381.9	1,408.1	3,718.8	3,932.6	7,607.4	96.2
	1976 ASM	(NA)	(NA)	239.7	1,651.4	208.9	377.5	1,249.9	3,187.2	3,111.2	6,323.0	77.5
	1975 ASM	(NA)	(NA)	240.0	1,652.4	209.3	377.9	1,251.5	3,187.2	3,117.1	6,333.4	78.4
	1974 ASM	(NA)	(NA)	255.8	1,604.1	223.1	401.8	1,228.8	3,120.2	3,099.2	6,176.5	76.1
	1973 ASM	(NA)	(NA)	267.6	1,595.4	234.7	434.4	1,230.2	2,962.0	3,075.9	6,022.5	80.9
	1972 Census	3,201	1,657	273.4	1,589.3	240.4	449.1	1,230.8	2,917.2	2,895.4	5,769.5	74.5
	1971 ASM	(NA)	(NA)	273.8	1,500.6	240.4	441.8	1,155.0	2,760.8	2,437.4	5,218.4	69.2
	1970 ASM	(NA)	(NA)	295.8	1,526.0	261.0	479.6	1,183.7	2,819.7	2,468.6	5,288.4	62.8
	1969 ASM	(NA)	(NA)	326.7	1,592.9	290.7	537.9	1,252.3	2,898.0	2,594.1	5,463.9	64.2
	1968 ASM	(NA)	(NA)	334.1	1,582.1	298.2	561.4	1,252.7	2,911.9	2,604.1	5,485.5	78.8
	1967 Census	3,685	1,967	328.7	1,458.8	293.3	549.2	1,147.0	2,626.5	2,540.9	5,169.0	62.1
	1966 ASM	(NA)	(NA)	341.1	1,426.0	303.1	574.4	1,125.3	2,480.8	2,590.3	5,032.6	61.5
	1965 ASM	(NA)	(NA)	335.7	1,348.3	299.2	562.7	1,065.3	2,322.0	2,342.0	4,640.5	46.5
	1964 ASM	(NA)	(NA)	326.7	1,285.9	291.9	553.4	1,022.1	2,264.7	2,173.3	4,414.4	37.7
	1963 Census	4,047	2,073	327.5	1,227.8	292.3	543.1	982.1	2,078.6	2,127.8	4,209.6	34.6
32	Stone, clay, and glass products:											
	1977 Census	17,744	5,201	613.7	7,943.1	484.4	960.7	5,766.6	19,129.6	16,444.8	35,476.6	1,881.4
	1976 ASM	(NA)	(NA)	588.8	6,389.7	461.2	901.0	4,596.2	14,848.7	12,301.0	27,073.9	1,581.2
	1975 ASM	(NA)	(NA)	591.6	6,402.6	464.0	905.9	4,601.1	15,337.6	12,339.2	27,595.1	1,601.6
	1974 ASM	(NA)	(NA)	637.0	6,414.2	507.9	1,012.5	4,719.8	14,566.0	12,041.2	26,260.1	1,583.6
	1973 ASM	(NA)	(NA)	643.8	6,079.4	510.8	1,027.7	4,456.7	13,801.0	10,179.8	23,861.7	1,391.4
	1972 Census	16,015	5,301	623.2	5,546.9	492.6	998.1	4,037.3	12,586.5	9,062.6	21,537.5	1,195.5
	1971 ASM	(NA)	(NA)	582.6	4,801.6	462.4	927.8	3,503.4	10,757.8	7,816.6	18,534.7	927.8
	1970 ASM	(NA)	(NA)	591.3	4,530.5	470.2	950.6	3,320.7	9,785.8	7,048.6	16,761.1	919.8
	1969 ASM	(NA)	(NA)	608.3	4,440.4	484.0	987.4	3,257.0	9,851.1	7,054.1	16,815.8	907.9
	1968 ASM	(NA)	(NA)	590.1	4,064.6	468.9	950.7	2,971.4	9,211.7	6,609.3	15,783.3	734.0
	1967 Census	15,580	4,911	589.9	3,825.5	469.3	948.4	2,784.1	8,333.4	6,146.0	14,449.4	820.9
	1966 ASM	(NA)	(NA)	616.0	3,837.5	488.0	998.9	2,811.7	8,494.6	6,262.5	14,629.4	939.5
	1965 ASM	(NA)	(NA)	604.6	3,602.1	479.9	981.1	2,640.2	7,995.9	5,989.3	13,938.7	773.2
	1964 ASM	(NA)	(NA)	580.8	3,369.0	458.5	949.2	2,446.9	7,492.7	5,541.1	12,950.2	627.2
	1963 Census	15,838	4,655	573.9	3,212.5	455.8	928.9	2,350.2	7,044.0	5,287.8	12,289.1	607.6
33	Primary metal products:											
	1977 Census	7,375	3,980	1,113.6	18,745.0	885.3	1,744.0	14,065.2	37,568.2	66,171.3	103,179.4	4,496.8
	1976 ASM	(NA)	(NA)	1,088.9	14,993.7	856.0	1,637.5	11,029.8	30,366.8	51,949.8	80,817.0	4,164.5
	1975 ASM	(NA)	(NA)	1,090.6	15,015.0	856.3	1,638.5	11,047.1	30,554.4	52,155.2	81,315.3	4,187.4
	1974 ASM	(NA)	(NA)	1,247.8	15,900.2	1,001.0	1,995.0	12,102.4	37,297.3	58,720.5	95,618.0	3,751.8
	1973 ASM	(NA)	(NA)	1,221.7	14,147.9	995.5	2,027.7	10,873.1	28,614.1	44,007.1	72,727.2	2,334.2
	1972 Census	6,792	3,901	1,142.8	12,166.5	922.7	1,849.9	9,202.4	23,258.1	35,708.9	58,429.7	2,160.6
	1971 ASM	(NA)	(NA)	1,169.3	11,204.6	931.4	1,831.8	8,300.6	21,119.8	31,867.5	53,067.3	2,197.5
	1970 ASM	(NA)	(NA)	1,261.2	11,251.9	1,013.5	2,009.0	8,410.2	21,444.6	32,629.8	53,510.7	2,736.7
	1969 ASM	(NA)	(NA)	1,310.5	11,447.4	1,064.3	2,171.5	8,687.7	22,729.0	32,956.6	55,257.9	2,815.9
	1968 ASM	(NA)	(NA)	1,274.7	10,479.2	1,033.4	2,090.4	7,922.2	20,973.7	29,346.3	50,317.0	3,102.3
	1967 Census	6,837	4,082	1,281.0	9,850.9	1,041.5	2,088.7	7,457.3	19,978.2	27,219.9	46,730.9	3,134.1
	1966 ASM	(NA)	(NA)	1,296.2	9,911.0	1,065.5	2,191.3	7,648.6	20,898.8	29,130.0	49,528.4	2,765.1
	1965 ASM	(NA)	(NA)	1,250.3	9,237.6	1,025.6	2,105.4	7,176.4	18,924.4	26,509.6	45,302.8	2,257.0
	1964 ASM	(NA)	(NA)	1,180.5	8,487.9	973.4	1,994.4	6,577.6	16,692.4	23,526.9	40,032.4	1,886.0
	1963 Census	6,513	3,583	1,126.5	7,734.1	922.2	1,839.0	5,933.6	15,261.1	20,474.2	35,621.5	1,446.3

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**—Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
34	**Fabricated metal products:**											
	1977 Census	33,712	12,739	1,555.7	21,035.9	1,191.6	2,373.8	14,428.8	45,511.5	45,384.8	90,023.5	2,606.1
	1976 ASM	(NA)	(NA)	1,416.9	16,334.3	1,070.2	2,085.4	11,029.5	34,203.0	34,465.7	68,738.7	2,074.2
	1975 ASM	(NA)	(NA)	1,419.9	16,359.0	1,072.7	2,091.2	11,048.4	34,095.8	34,527.8	68,823.6	2,077.7
	1974 ASM	(NA)	(NA)	1,574.7	16,570.0	1,207.7	2,415.0	11,469.2	35,221.0	33,858.1	67,569.9	1,981.2
	1973 ASM	(NA)	(NA)	1,566.7	15,374.0	1,212.5	2,439.9	10,742.3	30,573.4	28,520.7	58,556.3	1,734.7
	1972 Census	29,525	11,676	1,493.3	13,820.6	1,148.0	2,302.7	9,544.4	26,945.8	25,197.5	51,739.3	1,323.2
	1971 ASM	(NA)	(NA)	1,279.2	11,022.1	980.9	1,971.4	7,577.5	21,966.3	20,051.9	42,026.4	1,042.5
	1970 ASM	(NA)	(NA)	1,333.5	10,780.0	1,025.2	2,080.3	7,430.1	20,887.8	19,074.9	39,620.9	1,139.7
	1969 ASM	(NA)	(NA)	1,399.1	10,773.1	1,097.1	2,227.5	7,550.7	20,739.5	19,045.3	39,597.1	1,286.7
	1968 ASM	(NA)	(NA)	1,357.8	10,038.1	1,067.7	2,192.6	7,061.7	19,504.5	17,957.0	37,340.5	1,041.2
	1967 Census	27,418	10,741	1,341.8	9,319.5	1,056.9	2,160.9	6,541.6	18,042.6	16,704.9	34,577.8	1,118.4
	1966 ASM	(NA)	(NA)	1,252.3	8,244.9	984.1	2,038.2	5,762.4	15,791.9	15,306.2	30,904.6	952.5
	1965 ASM	(NA)	(NA)	1,173.3	7,413.6	914.5	1,901.4	5,181.5	14,171.3	13,687.3	27,536.1	805.7
	1964 ASM	(NA)	(NA)	1,115.9	6,852.9	869.5	1,794.8	4,802.7	12,692.9	12,375.5	24,895.6	726.8
	1963 Census	27,075	9,210	1,082.1	6,387.5	843.8	1,721.0	4,483.7	11,791.1	11,397.9	23,065.2	570.1
35	**Machinery, except electrical:**											
	1977 Census	48,200	12,446	2,083.3	30,557.5	1,413.8	2,803.0	18,298.4	67,222.5	56,531.6	122,187.7	4,402.4
	1976 ASM	(NA)	(NA)	1,966.6	24,555.1	1,340.7	2,644.6	14,778.3	51,044.4	44,581.0	95,752.5	3,354.7
	1975 ASM	(NA)	(NA)	1,979.2	24,702.0	1,349.8	2,661.1	14,853.8	51,471.0	44,821.2	96,400.3	3,369.4
	1974 ASM	(NA)	(NA)	2,126.1	24,713.4	1,496.7	3,024.8	15,431.1	52,494.9	43,548.6	92,487.2	3,312.2
	1973 ASM	(NA)	(NA)	1,993.8	21,598.0	1,400.2	2,842.7	13,493.7	44,559.0	35,566.1	78,092.7	2,344.0
	1972 Census	40,792	10,599	1,827.7	18,523.3	1,266.9	2,538.3	11,358.6	37,562.9	29,204.1	65,820.7	1,906.3
	1971 ASM	(NA)	(NA)	1,743.5	16,235.0	1,187.2	2,334.8	9,740.0	30,680.9	24,536.7	55,559.9	1,696.0
	1970 ASM	(NA)	(NA)	1,890.6	16,637.8	1,306.4	2,624.2	10,222.4	31,814.3	24,875.0	56,080.6	1,854.9
	1969 ASM	(NA)	(NA)	1,943.7	16,441.7	1,377.2	2,829.7	10,401.8	32,009.2	24,705.9	55,767.7	1,866.3
	1968 ASM	(NA)	(NA)	1,848.8	14,754.9	1,320.4	2,700.8	9,427.8	28,777.8	22,071.3	50,605.5	1,743.1
	1967 Census	37,892	10,629	1,864.5	14,226.3	1,349.0	2,785.0	9,236.1	27,836.4	21,231.6	48,477.2	1,868.1
	1966 ASM	(NA)	(NA)	1,803.7	13,469.8	1,309.9	2,795.8	8,843.0	27,034.9	20,769.7	46,621.9	1,658.3
	1965 ASM	(NA)	(NA)	1,652.8	11,741.8	1,195.9	2,515.1	7,659.6	22,762.0	17,306.4	39,241.1	1,228.4
	1964 ASM	(NA)	(NA)	1,538.6	10,606.9	1,108.7	2,327.3	6,982.3	20,302.4	15,304.5	35,060.1	939.4
	1963 Census	33,703	8,426	1,459.4	9,571.0	1,045.1	2,151.1	6,209.3	17,310.6	13,254.2	30,363.1	783.1
36	**Electric and electronic equipment:**											
	1977 Census	14,973	6,338	1,723.1	22,544.2	1,191.4	2,309.2	12,951.6	50,365.7	39,369.5	88,433.1	2,866.5
	1976 ASM	(NA)	(NA)	1,523.6	17,401.2	1,019.9	1,949.6	9,631.9	34,845.0	28,677.8	64,213.9	1,876.8
	1975 ASM	(NA)	(NA)	1,520.9	17,392.0	1,017.8	1,946.5	9,627.8	34,804.4	28,689.6	64,197.9	1,865.8
	1974 ASM	(NA)	(NA)	1,775.5	18,092.8	1,242.3	2,389.1	10,508.7	36,901.5	30,106.0	65,804.1	2,426.3
	1973 ASM	(NA)	(NA)	1,797.0	17,150.7	1,277.5	2,504.9	10,190.3	34,984.2	27,166.5	60,864.8	1,996.1
	1972 Census	12,274	5,736	1,662.2	15,200.1	1,160.8	2,275.0	8,822.6	30,583.6	23,315.6	53,433.0	1,418.8
	1971 ASM	(NA)	(NA)	1,659.0	14,436.7	1,119.4	2,182.7	8,040.0	27,874.2	20,923.0	49,168.1	1,398.6
	1970 ASM	(NA)	(NA)	1,831.6	14,827.2	1,237.4	2,417.4	8,320.6	27,773.5	21,003.7	48,420.8	1,519.7
	1969 ASM	(NA)	(NA)	1,917.8	14,829.7	1,324.0	2,618.5	8,445.7	28,210.9	21,115.9	48,913.7	1,640.7
	1968 ASM	(NA)	(NA)	1,882.7	13,807.8	1,304.1	2,596.5	7,986.0	26,425.0	20,321.6	46,470.4	1,477.6
	1967 Census	10,706	5,572	1,874.9	12,968.0	1,323.4	2,611.3	7,607.0	24,487.3	19,437.3	43,361.0	1,537.2
	1966 ASM	(NA)	(NA)	1,811.0	11,988.1	1,318.5	2,641.9	7,259.3	23,481.7	18,472.6	40,842.6	1,388.3
	1965 ASM	(NA)	(NA)	1,604.8	10,449.5	1,138.6	2,313.1	6,231.6	20,161.7	15,430.7	35,127.3	1,045.9
	1964 ASM	(NA)	(NA)	1,483.8	9,407.3	1,029.9	2,070.2	5,568.9	17,765.4	13,234.0	30,784.7	761.3
	1963 Census	9,948	4,722	1,511.8	9,284.3	1,049.4	2,090.5	5,405.8	17,010.7	12,942.6	29,840.2	701.9
37	**Transportation equipment:**											
	1977 Census	10,176	3,653	1,768.2	30,673.5	1,284.4	2,612.7	20,314.3	64,291.1	103,489.6	166,954.0	4,670.9
	1976 ASM	(NA)	(NA)	1,604.6	22,772.0	1,137.0	2,216.8	14,405.4	45,337.3	68,677.6	113,500.6	2,762.1
	1975 ASM	(NA)	(NA)	1,604.4	22,770.3	1,137.9	2,217.3	14,418.8	45,155.2	68,591.1	113,218.3	2,794.3
	1974 ASM	(NA)	(NA)	1,738.0	22,609.2	1,249.6	2,469.9	14,554.1	44,973.3	64,875.4	108,245.2	3,176.1
	1973 ASM	(NA)	(NA)	1,835.7	22,571.9	1,340.6	2,732.4	14,833.8	45,684.9	65,555.6	110,710.7	2,530.1
	1972 Census	8,802	3,618	1,719.0	19,880.0	1,246.2	2,527.4	12,848.6	39,799.4	55,767.8	94,704.9	2,660.2
	1971 ASM	(NA)	(NA)	1,620.8	16,697.8	1,186.0	2,370.8	11,047.9	34,845.0	51,251.9	86,920.4	1,258.2
	1970 ASM	(NA)	(NA)	1,688.6	16,072.6	1,200.8	2,393.3	10,230.0	29,990.2	42,293.2	72,589.5	1,611.6
	1969 ASM	(NA)	(NA)	1,919.7	17,650.7	1,398.1	2,823.0	11,454.6	34,053.2	48,012.3	81,786.0	1,942.6
	1968 ASM	(NA)	(NA)	1,887.6	16,811.2	1,376.5	2,893.3	11,135.4	32,866.2	46,997.1	79,494.3	1,599.0
	1967 Census	7,483	3,354	1,834.1	15,173.7	1,336.5	2,745.6	9,918.2	28,173.9	40,419.9	68,512.3	1,822.4
	1966 ASM	(NA)	(NA)	1,829.7	14,852.4	1,354.5	2,843.8	9,857.8	28,277.1	41,936.1	69,422.7	1,879.8
	1965 ASM	(NA)	(NA)	1,683.8	13,273.3	1,240.7	2,639.8	8,813.2	26,330.9	39,901.2	65,842.7	1,506.1
	1964 ASM	(NA)	(NA)	1,563.2	11,887.2	1,119.8	2,367.7	7,771.5	22,733.9	33,189.7	55,688.9	1,176.6
	1963 Census	7,180	2,852	1,551.2	11,406.0	1,108.2	2,355.7	7,388.9	21,854.0	31,790.0	53,581.0	981.0
38	**Instruments and related products:**											
	1977 Census	7,481	2,538	559.1	7,520.4	347.2	677.9	3,743.2	18,762.0	10,503.9	28,897.8	938.9
	1976 ASM	(NA)	(NA)	499.8	5,828.7	308.8	587.6	2,818.1	14,157.6	7,721.7	22,058.7	794.3
	1975 ASM	(NA)	(NA)	502.0	5,854.2	310.4	590.8	2,835.4	14,116.2	7,754.9	22,071.8	756.7
	1974 ASM	(NA)	(NA)	524.1	5,560.3	338.3	653.0	2,851.3	13,627.4	7,698.1	20,864.8	808.0
	1973 ASM	(NA)	(NA)	485.4	4,800.5	316.0	613.9	2,490.0	12,224.3	5,977.3	17,793.7	635.6
	1972 Census	5,987	2,070	454.1	4,296.5	291.9	569.6	2,237.1	10,583.7	5,071.2	15,565.7	480.4
	1971 ASM	(NA)	(NA)	381.7	3,345.7	244.9	465.1	1,732.9	8,385.9	3,956.8	12,275.8	392.7
	1970 ASM	(NA)	(NA)	404.6	3,357.5	261.5	502.1	1,746.3	7,905.4	3,943.6	11,782.5	435.5
	1969 ASM	(NA)	(NA)	413.1	3,271.8	271.0	535.2	1,757.2	7,676.0	4,119.9	11,686.3	388.3
	1968 ASM	(NA)	(NA)	400.0	3,001.5	265.5	524.7	1,625.0	7,174.1	3,780.7	10,886.9	397.2
	1967 Census	4,453	1,614	394.3	2,821.6	265.9	530.2	1,569.0	6,418.4	3,591.8	9,907.2	392.2
	1966 ASM	(NA)	(NA)	362.0	2,509.3	248.8	494.1	1,426.0	5,833.3	3,210.9	8,832.7	307.0
	1965 ASM	(NA)	(NA)	328.7	2,227.9	225.9	451.5	1,275.0	5,002.2	2,742.3	7,621.2	232.2
	1964 ASM	(NA)	(NA)	308.0	2,013.6	209.1	420.5	1,148.5	4,314.3	2,378.1	6,603.2	192.1
	1963 Census	3,949	1,343	305.5	1,912.5	208.4	416.6	1,100.7	3,992.1	2,171.1	6,117.8	191.9

See footnotes at end of table.

Table 7. **Statistics for Operating Manufacturing Establishments by Major Industry Group: 1963 to 1977**—Con.

1977 code	Major industry group and year	Establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (million)	Wages (million dollars)				
39	Miscellaneous manufacturing industry and ordnance and accessories:											
	1977 Census[1]	17,259	3,794	440.7	4,406.4	338.7	626.7	2,745.3	10,291.0	9,061.4	19,150.7	473.6
	1976 ASM[1]	(NA)	(NA)	393.4	3,487.0	302.5	564.8	2,168.4	7,580.0	6,707.1	14,486.9	301.9
	1975 ASM[1]	(NA)	(NA)	394.9	3,499.7	303.2	566.8	2,173.5	7,695.9	6,742.5	14,647.2	348.6
	1974 ASM[1]	(NA)	(NA)	435.0	3,477.1	336.9	636.5	2,253.7	7,666.5	6,625.0	14,043.7	362.3
	1973 ASM[1]	(NA)	(NA)	447.1	3,351.0	351.8	660.3	2,187.5	7,166.3	5,969.2	13,046.1	341.2
	1972 Census[1]	15,188	3,755	446.1	3,184.5	350.2	661.5	2,086.7	6,777.0	5,558.8	12,185.9	317.1
	1971 ASM	(NA)	(NA)	411.3	2,739.9	319.1	604.4	1,773.2	5,707.3	4,470.2	10,122.0	262.5
	1970 ASM	(NA)	(NA)	429.3	2,684.9	337.0	643.3	1,752.3	5,433.1	4,348.3	9,743.4	253.2
	1969 ASM	(NA)	(NA)	448.5	2,664.8	362.5	689.7	1,796.4	5,296.3	4,426.0	9,665.4	240.0
	1968 ASM	(NA)	(NA)	430.7	2,461.3	348.8	669.2	1,666.7	4,950.9	4,074.7	8,945.0	209.0
	1967 Census	14,072	3,845	423.1	2,291.0	344.4	662.0	1,552.5	4,599.4	3,773.4	8,310.7	213.5
	1966 ASM	(NA)	(NA)	418.2	2,150.3	340.2	666.3	1,463.3	4,338.3	3,778.8	7,971.4	181.3
	1965 ASM	(NA)	(NA)	416.0	2,042.2	339.6	661.1	1,393.3	4,092.3	3,510.7	7,541.4	165.9
	1964 ASM	(NA)	(NA)	393.7	1,924.0	315.0	631.4	1,313.7	3,762.6	3,151.5	6,889.0	137.4
	1963 Census	14,723	3,618	390.9	1,812.1	315.0	613.2	1,253.5	3,562.4	2,965.0	6,494.8	131.0

(NA) Not available.

[1]Excludes ordnance and accessories. In the 1972 SIC revision, major group 19 was eliminated as a separate major industry group and its industries were reclassified to major groups 34, 36, 37, and 38.

Table 8. Summary Statistics by Major Industry Group: 1977

(Major groups descriptions are: 20--food and kindred products; 21--tobacco manufactures; 22--textile mill products; 23--apparel and other textile products; 24--lumber and wood products; 25--furniture and fixtures; 26--paper and allied products; 27--printing and publishing; 28--chemicals and allied products; 29--petroleum and coal products; 30--rubber and miscellaneous plastics products; 31--leather and leather products; 32--stone, clay, and glass products; 33--primary metal industries; 34--fabricated metal products; 35--machinery, except electrical; 36--electric and electronic equipment; 37--transportation equipment; 38--instruments and related products; 39--miscellaneous manufacturing industries. For explanation of terms, see appendix A)

Item	All establishments[1]	Major industry groups					
		20	21	22	23	24	25
All industries.....number..	359,928	26,656	228	7,202	26,505	37,302	10,235
With 1 to 19 employees.....do..	241,229	15,618	105	3,071	14,573	30,246	6,647
With 20 to 99 employees.....do..	81,118	7,235	38	2,108	8,414	5,481	2,500
With 100 employees or more.....do..	37,581	3,803	85	2,023	3,518	1,575	1,088
All employees, average for year.....1,000..	19,590.1	1,520.0	60.6	875.7	1,334.3	692.4	463.8
Payroll for year, all employees.....mil. dol..	264,013.1	18,543.6	750.7	7,881.4	9,658.6	7,424.7	4,448.3
Production workers:							
Average for year.....1,000..	13,691.0	1,072.0	50.4	764.6	1,156.6	594.8	383.6
March.....do..	13,354.1	1,008.1	50.4	757.5	1,145.3	555.7	374.1
May.....do..	13,627.1	1,029.3	45.0	768.3	1,161.6	590.1	379.0
August.....do..	13,842.3	1,167.4	52.5	768.9	1,157.0	623.8	384.6
November.....do..	13,900.0	1,080.4	53.8	763.5	1,160.3	605.1	395.9
Hours.....millions..	26,686.7	2,112.4	92.6	1,523.1	2,037.6	1,147.6	736.4
January to March.....do..	6,445.7	491.9	22.9	376.7	499.4	264.9	175.8
April to June.....do..	6,762.2	510.8	20.8	395.6	523.1	290.9	186.6
July to Spetember.....do..	6,693.2	571.9	23.7	369.9	503.3	300.1	183.4
October to December.....do..	6,785.4	537.7	25.2	380.9	511.9	291.7	190.6
Wages.....mil. dol..	157,163.7	11,730.7	570.7	6,202.8	7,252.8	5,795.0	3,191.8
Cost of materials, etc.[2].....do..	782,417.7	136,963.7	4,729.8	24,753.2	20,865.5	23,918.7	8,187.4
Materials, parts, containers, etc., consumed.....do..	689,922.1	121,610.4	4,289.4	22,253.7	16,083.0	20,583.0	7,421.9
Resales.....do..	40,146.2	12,455.2	365.5	418.0	705.9	1,390.0	457.5
Fuels consumed.....do..	18,910.3	1,495.4	31.1	495.1	86.1	368.5	76.9
Purchased electric energy.....do..	14,594.4	1,063.0	32.8	649.2	204.1	370.1	123.8
Contract work.....do..	18,844.9	339.7	10.9	937.1	3,786.4	1,207.1	107.3
Value of shipments, including resales[2].....do..	1,358,526.4	192,911.6	9,050.6	40,550.5	40,245.1	39,919.4	16,978.0
Value of resales.....do..	49,804.6	14,627.6	347.2	507.2	930.3	1,488.0	574.7
Value added by manufacture.....do..	585,165.6	56,062.2	4,334.1	16,104.5	19,671.3	16,222.8	8,921.7
Manufacturers' inventories:							
Beginning of year.....do..	174,865.0	16,416.3	3,615.2	5,103.5	5,125.3	4,258.1	2,504.7
Finished products.....do..	55,205.5	8,578.3	215.0	1,839.1	2,144.2	1,653.3	741.6
Work in process.....do..	55,600.2	1,587.0	47.4	1,513.8	1,081.7	888.9	604.6
Materials, supplies, fuel, etc.....do..	64,059.3	6,250.9	3,352.8	1,750.6	1,899.5	1,715.9	1,158.5
End of year.....do..	188,436.4	16,984.9	3,711.9	5,509.9	5,535.8	4,663.8	2,750.3
Finished products.....do..	59,429.9	9,046.7	208.2	1,966.1	2,309.0	1,774.4	788.6
Work in process.....do..	60,732.6	1,584.5	60.6	1,694.0	1,208.9	989.8	688.7
Materials, supplies, fuels, etc.....do..	68,273.9	6,353.6	3,443.1	1,849.9	2,017.9	1,899.6	1,273.0
Capital expenditures for plant and equipment.....do..	50,329.4	4,468.7	189.8	1,354.6	522.9	1,693.4	416.8
New capital expenditures.....do..	47,459.0	4,214.9	181.5	1,223.5	456.7	1,562.6	388.7
New buildings and structures.....do..	8,499.5	908.5	56.7	198.9	114.0	290.9	119.2
New machinery and equipment.....do..	38,959.5	3,306.4	124.7	1,024.5	342.6	1,271.6	269.4
Used capital expenditures.....do..	2,870.4	253.8	8.3	131.1	66.2	130.9	28.1

Item	Major industry groups--Con.						
	26	27	28	29	30	31	32
All industries.....number..	6,545	49,767	12,173	2,206	11,943	3,075	17,744
With 1 to 19 employees.....do..	2,546	40,635	7,571	1,433	6,649	1,589	12,543
With 20 to 99 employees.....do..	2,276	7,230	3,085	495	3,740	823	3,965
With 100 employees or more.....do..	1,723	1,902	1,517	278	1,554	663	1,236
All employees, average for year.....1,000..	628.7	1,092.2	880.2	146.8	721.3	242.5	613.7
Payroll for year, all employees.....mil. dol..	8,942.9	14,024.5	13,839.3	2,696.2	8,536.0	1,859.7	7,943.1
Production workers:							
Average for year.....1,000..	486.3	625.8	543.8	101.1	563.7	211.5	484.4
March.....do..	476.3	614.8	537.5	95.2	548.9	208.5	459.0
May.....do..	485.5	619.6	545.2	102.0	561.6	212.8	485.5
August.....do..	492.4	623.4	548.1	104.5	570.7	212.4	499.3
November.....do..	490.6	631.3	542.5	102.5	572.7	212.1	491.9
Hours.....millions..	985.9	1,152.8	1,089.9	207.9	1,110.6	381.9	960.7
January to March.....do..	241.5	286.4	268.4	47.4	271.9	93.2	219.0
April to June.....do..	248.7	285.2	276.2	53.1	281.9	98.0	245.6
July to September.....do..	246.9	287.0	272.9	54.3	275.8	93.5	252.5
October to December.....do..	248.8	294.3	272.2	53.2	281.0	97.2	243.5
Wages.....mil. dol..	6,323.1	7,322.1	7,446.2	1,765.4	5,841.6	1,408.1	5,766.6
Cost of materials, etc[2].....do..	30,148.2	17,794.7	62,293.8	81,655.4	20,217.8	3,932.6	16,444.8
Materials, parts, containers, etc., consumed.....do..	26,380.3	13,216.7	51,501.5	75,368.3	17,790.7	3,441.8	12,491.9
Resales.....do..	627.2	589.5	3,487.4	3,487.0	1,221.2	283.3	1,149.7
Fuels consumed.....do..	2,039.6	114.7	3,725.1	1,805.4	364.6	37.0	1,833.6
Purchased electric energy.....do..	926.2	312.2	2,725.6	639.9	604.0	46.3	769.5
Contract work.....do..	175.0	3,561.5	854.0	354.9	237.3	124.2	200.1

See footnotes at end of table.

Table 8. Summary Statistics by Major Industry Group: 1977—Con.

(Major groups descriptions are: 20--food and kindred products; 21--tobacco manufactures; 22--textile mill products; 23--apparel and other textile products; 24--lumber and wood products; 25--furniture and fixtures; 26--paper and allied products; 27--printing and publishing; 28--chemicals and allied products; 29--petroleum and coal products; 30--rubber and miscellaneous plastics products; 31--leather and leather products; 32--stone, clay, and glass products; 33--primary metal industries; 34--fabricated metal products; 35--machinery, except electrical; 36--electric and electronic equipment; 37--transportation equipment; 38--instruments and related products; 39--miscellaneous manufacturing industries. For explanation of terms, see appendix A)

Item	Major industry groups--Con.						
	26	27	28	29	30	31	32
Value of shipments, including resales[2]....do..	52,085.7	49,716.2	118,153.6	97,452.7	39,552.8	7,607.4	35,476.6
Value of resales....do..	774.7	821.2	4,891.5	3,698.6	1,514.0	363.6	1,360.9
Value added by manufacture....do..	22,170.9	31,979.5	56,720.6	16,377.6	19,740.0	3,718.8	19,129.6
Manufacturers' inventories:							
Beginning of year....do..	5,281.0	3,943.0	13,447.5	4,912.9	4,441.4	1,033.0	3,995.3
Finished products....do..	1,811.1	1,367.1	6,338.7	2,426.4	1,931.3	428.1	1,923.2
Work in process....do..	568.6	868.7	2,032.0	1,192.7	741.6	240.9	560.8
Materials, supplies, fuel, etc....do..	2,901.3	1,707.2	5,076.3	1,293.8	1,768.5	364.1	1,511.3
End of year....do..	5,641.5	4,200.6	14,791.3	5,656.3	4,952.7	1,098.9	4,279.3
Finished products....do..	1,964.3	1,349.8	6,993.5	2,796.2	2,244.8	457.0	1,987.7
Work in process....do..	648.8	944.0	2,239.2	1,403.2	833.0	255.9	594.1
Materials, supplies, fuel, etc....do..	3,028.3	1,906.8	5,558.6	1,457.0	1,874.9	386.0	1,697.5
Capital expenditures, for plant and equipment....do..	3,503.4	1,728.3	8,402.5	2,349.9	1,763.7	106.6	2,001.0
New capital expenditures....do..	3,295.0	1,597.8	8,198.9	2,261.3	1,645.3	96.2	1,881.4
New buildings and structures....do..	326.0	310.5	1,246.3	617.8	306.4	21.6	337.2
New machinery and equipment....do..	2,969.0	1,287.2	6,952.6	1,643.5	1,338.9	74.6	1,544.2
Used capital expenditures....do..	208.4	130.6	203.6	88.6	118.4	10.4	119.6

Item	Major industry groups--Con.						
	33	34	35	36	37	38	39
All industries....number..	7,375	33,712	48,200	14,973	10,176	7,481	17,259
With 1 to 19 employees....do..	3,395	20,973	35,754	8,635	6,523	4,943	13,465
With 20 to 99 employees....do..	2,248	9,421	9,081	3,468	2,091	1,630	2,884
With 100 employees or more....do..	1,732	3,318	3,365	2,870	1,562	908	910
All employees, average for year....1,000..	1,113.6	1,555.7	2,083.3	1,723.1	1,768.2	559.1	440.7
Payroll for year, all employees....mil. dol..	18,745.0	21,035.9	30,557.5	22,544.2	30,673.5	7,520.4	4,406.4
Production workers:							
Average for year....1,000..	885.3	1,191.6	1,413.8	1,191.4	1,284.4	347.2	338.7
March....do..	871.7	1,158.2	1,392.3	1,160.3	1,274.6	340.5	325.1
May....do..	897.2	1,184.6	1,403.0	1,179.7	1,297.2	344.6	335.4
August....do..	890.2	1,202.3	1,412.5	1,196.8	1,239.5	350.7	345.5
November....do..	881.6	1,219.2	1,445.4	1,227.6	1,325.4	351.9	346.3
Hours....millions..	1,744.0	2,373.8	2,803.0	2,309.2	2,612.7	677.9	626.7
January to March....do..	424.3	569.0	679.7	561.5	634.6	167.7	149.8
April to June....do..	453.5	601.1	695.8	587.1	677.1	171.5	159.4
July to September....do..	431.6	597.2	696.3	564.3	647.2	166.1	155.3
October to December....do..	434.7	606.5	731.2	596.3	653.9	172.6	162.1
Wages....mil. dol..	14,065.2	14,428.8	18,298.4	12,951.6	20,314.3	3,743.2	2,745.3
Cost of materials, etc.[2]....do..	66,171.3	45,384.8	56,531.6	39,369.5	103,489.6	10,503.9	9,061.4
Materials, parts, containers, etc., consumed....do..	56,899.6	39,722.6	49,813.5	34,741.7	99,361.8	9,052.3	7,897.9
Resales....do..	1,239.0	2,783.6	3,376.3	2,850.5	1,605.1	961.6	692.6
Fuels consumed....do..	4,299.5	607.2	475.4	318.8	554.3	107.7	74.2
Purchased electric energy....do..	2,750.3	753.0	802.9	672.9	850.9	168.9	128.8
Contract work....do..	983.0	1,518.4	2,063.5	785.6	1,117.5	213.5	267.9
Value of shipments, including resales[2]....do..	103,179.4	90,023.5	122,187.7	88,433.1	166,954.0	28,897.8	19,150.7
Value of resales....do..	1,425.8	3,410.4	4,652.2	3,935.7	1,994.4	1,488.0	998.6
Value added by manufacture....do..	37,568.2	45,511.5	67,222.5	50,365.7	64,291.1	18,762.0	10,291.0
Manufacturers' inventories:							
Beginning of year....do..	17,884.5	14,111.8	25,153.3	14,273.0	20,745.1	5,311.1	3,309.0
Finished products....do..	4,401.0	3,400.0	7,030.1	3,645.7	2,662.2	1,369.9	1,299.3
Work in process....do..	6,056.2	4,877.8	10,998.2	6,305.3	12,375.6	2,248.6	810.0
Materials, supplies, fuel, etc....do..	7,427.9	5,834.0	7,125.1	4,322.1	5,707.3	1,692.6	1,199.6
End of year....do..	18,458.3	15,306.2	27,170.9	16,058.7	22,240.5	5,810.6	3,614.2
Finished products....do..	4,675.5	3,688.9	7,506.7	3,962.5	2,817.0	1,495.9	1,397.2
Work in process....do..	6,340.5	5,461.9	12,088.0	7,290.5	13,002.5	2,490.7	913.8
Materials, supplies, fuel, etc....do..	7,442.3	6,155.4	7,576.2	4,805.7	6,421.0	1,824.1	1,303.1
Capital expenditures for plant and equipment....do..	4,746.4	2,880.0	4,762.5	3,118.2	4,820.2	983.2	517.0
New capital expenditures....do..	4,496.8	2,606.1	4,402.4	2,866.5	4,670.9	938.9	473.6
New buildings and structures....do..	652.8	480.9	948.7	519.9	695.6	235.3	112.1
New machinery and equipment....do..	3,844.0	2,125.3	3,453.7	2,346.6	3,975.3	703.6	361.5
Used capital expenditures....do..	249.6	273.9	360.0	251.7	149.3	44.3	43.4

[1]Includes administrative offices and auxiliaries.

[2]Aggregate of cost of materials and value of shipments for industry groups and for all manufacturing industries includes extensive duplication, since products of some industries are used as materials by others.

Table 9. Gross Book Value of Depreciable Assets, Capital Expenditures, Retirements, Depreciation Charges, and Rental Payments for Buildings and Machinery by Major Industry Group: 1977

Item description	Total (million dollars)	Buildings and other structures (million dollars)	Machinery and equipment (million dollars)	Standard error of estimate for total (percent)
ALL INDUSTRIES				
ASSETS, BEGINNING OF YEAR.	402 067.0	104 196.3	297 870.6	1
CAPITAL EXPEND., NEW . .	48 641.4	8 605.5	40 035.9	1
CAPITAL EXPEND., USED. .	3 265.9	867.6	2 398.3	1
RETIREMENTS.	14 954.0	2 415.8	12 538.4	1
ASSETS, END OF YEAR. . . .	439 020.3	111 257.7	327 762.6	1
DEPRECIATION CHARGES . . .	26 734.9	4 587.4	22 147.3	1
RENTAL PAYMENTS.	7 064.2	3 207.9	3 856.3	1
20-FOOD AND KINDRED PRODUCTS				
ASSETS, BEGINNING OF YEAR.	35 088.4	10 853.8	24 234.7	1
CAPITAL EXPEND., NEW . .	4 319.3	947.6	3 371.6	1
CAPITAL EXPEND., USED. .	274.8	81.5	193.3	4
RETIREMENTS.	1 256.2	263.7	992.9	1
ASSETS, END OF YEAR. . . .	38 426.1	11 619.3	26 806.8	1
DEPRECIATION CHARGES . . .	2 432.9	504.1	1 928.8	1
RENTAL PAYMENTS.	787.5	285.0	502.3	2
21-TOBACCO PRODUCTS				
ASSETS, BEGINNING OF YEAR.	1 663.8	559.7	1 104.1	1
CAPITAL EXPEND., NEW . .	181.5	56.9	124.6	1
CAPITAL EXPEND., USED. .	8.5	1.7	6.8	4
RETIREMENTS.	64.2	4.0	60.2	1
ASSETS, END OF YEAR. . . .	1 789.7	614.3	1 175.4	1
DEPRECIATION CHARGES . . .	111.0	29.5	81.5	1
RENTAL PAYMENTS.	14.4	9.0	5.4	2
22-TEXTILE MILL PRODUCTS				
ASSETS, BEGINNING OF YEAR.	13 992.5	3 592.4	10 400.2	1
CAPITAL EXPEND., NEW . .	1 285.6	216.7	1 068.9	1
CAPITAL EXPEND., USED. .	163.1	32.8	130.3	4
RETIREMENTS.	600.8	98.4	502.3	2
ASSETS, END OF YEAR. . . .	14 840.2	3 742.9	11 097.1	1
DEPRECIATION CHARGES . . .	921.1	139.9	781.2	1
RENTAL PAYMENTS.	192.4	94.4	98.1	3
23-APPAREL, OTHER TEXTILE PRODS				
ASSETS, BEGINNING OF YEAR.	3 773.6	1 276.7	2 497.1	1
CAPITAL EXPEND., NEW . .	528.9	127.3	401.6	3
CAPITAL EXPEND., USED. .	114.3	24.1	90.2	3
RETIREMENTS.	311.6	80.5	231.6	4
ASSETS, END OF YEAR. . . .	4 105.3	1 347.7	2 757.3	1
DEPRECIATION CHARGES . . .	329.1	64.7	264.4	5
RENTAL PAYMENTS.	326.6	231.6	94.9	4
24-LUMBER AND WOOD PRODUCTS				
ASSETS, BEGINNING OF YEAR.	11 258.6	2 430.2	8 828.4	1
CAPITAL EXPEND., NEW . .	1 709.5	275.8	1 433.6	1
CAPITAL EXPEND., USED. .	150.4	21.4	129.0	6
RETIREMENTS.	666.1	125.3	541.0	1
ASSETS, END OF YEAR. . . .	12 452.4	2 602.0	9 850.0	1
DEPRECIATION CHARGES . . .	1 128.5	167.0	961.4	2
RENTAL PAYMENTS.	243.4	96.5	146.4	4
25-FURNITURE AND FIXTURES				
ASSETS, BEGINNING OF YEAR.	3 621.6	1 532.0	2 089.4	1
CAPITAL EXPEND., NEW . .	447.3	142.5	304.9	4
CAPITAL EXPEND., USED. .	36.3	15.8	20.5	12
RETIREMENTS.	173.6	67.3	106.3	4
ASSETS, END OF YEAR. . . .	3 931.7	1 622.9	2 308.6	1
DEPRECIATION CHARGES . . .	275.9	69.0	206.9	2
RENTAL PAYMENTS.	169.8	109.5	60.2	4
26-PAPER AND ALLIED PRODUCTS				
ASSETS, BEGINNING OF YEAR.	28 362.6	4 997.2	23 365.4	1
CAPITAL EXPEND., NEW . .	3 352.2	332.6	3 019.6	1
CAPITAL EXPEND., USED. .	228.6	41.7	186.9	5
RETIREMENTS.	572.2	74.7	497.8	2
ASSETS, END OF YEAR. . . .	31 371.1	5 297.0	26 074.0	1
DEPRECIATION CHARGES . . .	1 602.8	213.3	1 389.5	1
RENTAL PAYMENTS.	322.7	131.3	191.3	3
27-PRINTING AND PUBLISHING				
ASSETS, BEGINNING OF YEAR.	13 873.3	3 831.9	10 041.2	1
CAPITAL EXPEND., NEW . .	1 799.7	329.7	1 470.0	1
CAPITAL EXPEND., USED. .	198.0	68.6	129.4	1
RETIREMENTS.	631.5	93.1	539.1	1
ASSETS, END OF YEAR. . . .	15 239.3	4 137.1	11 101.5	1
DEPRECIATION CHARGES . . .	1 110.1	180.8	929.3	2
RENTAL PAYMENTS.	604.1	345.3	258.2	2
28-CHEMICALS AND ALLIED PRODUCTS				
ASSETS, BEGINNING OF YEAR.	58 531.2	11 440.4	47 090.6	1
CAPITAL EXPEND., NEW . .	8 180.7	1 222.4	6 957.4	1
CAPITAL EXPEND., USED. .	211.4	49.3	162.0	3
RETIREMENTS.	1 623.1	264.6	1 358.4	1
ASSETS, END OF YEAR. . . .	65 300.3	12 447.9	52 851.8	1
DEPRECIATION CHARGES . . .	4 001.4	577.9	3 423.4	1
RENTAL PAYMENTS.	513.3	157.2	355.8	2
29-PETROLEUM AND COAL PRODUCTS				
ASSETS, BEGINNING OF YEAR.	23 677.4	9 335.1	14 342.2	1
CAPITAL EXPEND., NEW . .	2 250.7	607.0	1 643.7	1
CAPITAL EXPEND., USED. .	98.8	39.7	59.1	10
RETIREMENTS.	309.3	124.9	184.5	2
ASSETS, END OF YEAR. . . .	25 717.5	9 856.8	15 860.5	1
DEPRECIATION CHARGES . . .	1 068.2	394.9	673.2	1
RENTAL PAYMENTS.	136.0	33.4	102.4	3
30-RUBBER, MISC PLASTICS PROD				
ASSETS, BEGINNING OF YEAR.	14 774.0	3 582.5	11 191.8	1
CAPITAL EXPEND., NEW . .	1 700.2	329.9	1 370.3	1
CAPITAL EXPEND., USED. .	129.7	35.6	94.1	7
RETIREMENTS.	566.9	80.3	486.8	2
ASSETS, END OF YEAR. . . .	16 036.9	3 867.6	12 169.4	1
DEPRECIATION CHARGES . . .	1 131.4	160.0	971.4	1
RENTAL PAYMENTS.	284.2	152.3	131.5	3
31-LEATHER AND LEATHER PRODUCTS				
ASSETS, BEGINNING OF YEAR.	895.9	327.0	568.9	2
CAPITAL EXPEND., NEW . .	109.0	25.6	83.3	7
CAPITAL EXPEND., USED. .	12.9	4.9	8.0	10
RETIREMENTS.	45.0	9.2	35.9	8
ASSETS, END OF YEAR. . . .	972.7	348.4	624.3	2
DEPRECIATION CHARGES . . .	71.7	15.5	56.2	4
RENTAL PAYMENTS.	64.0	31.1	32.9	3
32-STONE, CLAY, GLASS PRODUCTS				
ASSETS, BEGINNING OF YEAR.	18 511.0	4 438.2	14 072.6	1
CAPITAL EXPEND., NEW . .	2 017.5	346.0	1 671.5	1
CAPITAL EXPEND., USED. .	133.8	24.6	109.1	9
RETIREMENTS.	592.2	80.0	512.4	3
ASSETS, END OF YEAR. . . .	20 070.0	4 728.8	15 340.9	1
DEPRECIATION CHARGES . . .	1 247.4	191.3	1 056.0	2
RENTAL PAYMENTS.	225.1	82.9	142.0	4
33-PRIMARY METAL INDUSTRIES				
ASSETS, BEGINNING OF YEAR.	55 272.7	10 708.2	44 563.3	1
CAPITAL EXPEND., NEW . .	4 549.3	653.9	3 895.3	1
CAPITAL EXPEND., USED. .	262.7	38.9	223.8	3
RETIREMENTS.	1 773.1	285.4	1 488.0	1
ASSETS, END OF YEAR. . . .	58 311.6	11 115.8	47 195.5	1
DEPRECIATION CHARGES . . .	2 482.9	325.6	2 157.5	1
RENTAL PAYMENTS.	330.3	85.9	244.2	3
34-FABRICATED METAL PRODUCTS				
ASSETS, BEGINNING OF YEAR.	23 743.9	6 350.7	17 393.8	1
CAPITAL EXPEND., NEW . .	2 761.8	481.0	2 280.8	7
CAPITAL EXPEND., USED. .	304.8	82.1	222.5	6
RETIREMENTS.	892.6	160.4	732.2	2
ASSETS, END OF YEAR. . . .	25 917.9	6 753.3	19 164.5	1
DEPRECIATION CHARGES . . .	1 786.8	322.8	1 464.0	1
RENTAL PAYMENTS.	612.9	323.4	289.7	1
35-MACHINERY, EXCEPT ELECTRICAL				
ASSETS, BEGINNING OF YEAR.	32 563.6	9 316.5	23 247.3	1
CAPITAL EXPEND., NEW . .	4 435.9	933.0	3 502.5	1
CAPITAL EXPEND., USED. .	426.9	148.9	278.0	1
RETIREMENTS.	1 334.2	186.1	1 148.3	1
ASSETS, END OF YEAR. . . .	36 091.8	10 212.1	25 879.0	1
DEPRECIATION CHARGES . . .	2 494.3	401.1	2 093.4	1
RENTAL PAYMENTS.	848.6	397.0	451.4	2
36-ELECTRIC, ELECTRONIC EQUIP				
ASSETS, BEGINNING OF YEAR.	21 845.9	6 716.2	15 129.5	1
CAPITAL EXPEND., NEW . .	2 873.2	512.7	2 360.2	1
CAPITAL EXPEND., USED. .	248.8	83.3	165.5	2
RETIREMENTS.	1 045.0	134.7	910.3	1
ASSETS, END OF YEAR. . . .	23 922.5	7 177.5	16 744.7	1
DEPRECIATION CHARGES . . .	1 710.5	291.9	1 418.5	1
RENTAL PAYMENTS.	529.8	249.8	279.9	1
37-TRANSPORTATION EQUIPMENT				
ASSETS, BEGINNING OF YEAR.	28 978.2	8 889.0	20 089.1	1
CAPITAL EXPEND., NEW . .	4 685.1	714.5	3 970.1	4
CAPITAL EXPEND., USED. .	158.1	29.9	128.3	8
RETIREMENTS.	1 976.7	165.8	1 811.0	1
ASSETS, END OF YEAR. . . .	31 844.7	9 467.5	22 376.8	1
DEPRECIATION CHARGES . . .	1 894.8	344.1	1 550.6	1
RENTAL PAYMENTS.	475.1	178.3	296.8	2
38-INSTRUMENTS, RELATED PRODUCTS				
ASSETS, BEGINNING OF YEAR.	7 732.0	2 712.5	5 019.4	1
CAPITAL EXPEND., NEW . .	930.5	225.9	704.6	2
CAPITAL EXPEND., USED. .	54.2	24.4	29.8	13
RETIREMENTS.	296.4	70.4	226.0	4
ASSETS, END OF YEAR. . . .	8 420.2	2 892.2	5 528.0	1
DEPRECIATION CHARGES . . .	602.0	125.3	476.7	1
RENTAL PAYMENTS.	212.4	100.4	111.8	3
39-MISC MANUFACTURING INDUSTRIES				
ASSETS, BEGINNING OF YEAR.	3 906.8	1 306.1	2 600.6	1
CAPITAL EXPEND., NEW . .	523.5	122.6	400.9	4
CAPITAL EXPEND., USED. .	49.8	18.4	31.4	7
RETIREMENTS.	223.3	47.9	175.4	7
ASSETS, END OF YEAR. . . .	4 256.7	1 399.3	2 857.5	1
DEPRECIATION CHARGES . . .	332.1	68.7	263.4	2
RENTAL PAYMENTS.	171.6	112.3	59.3	3

Note: Expenditures data, shown in table 3a, are census universe figures and may differ from ASM sample estimates shown in this table. Table 3b figures represent best estimate of year-to-year change as measured by continuing ASM sample, but are subject to sampling errors. Hence, as estimates of level, they are not as reliable as universe figures. For a description of the standard error of estimate, see the section "Qualifications of data" in appendix B.

Table 10. Cost of Purchased Services by Major Industry Group: 1977

Code	Industry group	Repair of buildings			Repair of machinery			Communication services		
		Cost (million dollars)	Response coverage ratio (percent)	Standard error of estimate (percent)	Cost (million dollars)	Response coverage ratio (percent)	Standard error of estimate (percent)	Cost (million dollars)	Response coverage ratio (percent)	Standard error of estimate (percent)
	United States	2,300.2	61	(NA)	9,569.2	59	(NA)	3,576.7	63	(NA)
20	Food and kindred products	321.8	59	7	1,392.5	61	6	(347.7)	62	24
21	Tobacco products	13.5	72	3	6.7	61	14	4.2	72	3
22	Textile mill products	118.0	59	2	454.8	62	3	207.5	68	4
23	Apparel and other textile products	(227.9)	57	82	(519.0)	58	19	(406.5)	60	20
24	Lumber and wood products	(33.8)	60	16	(283.2)	60	59	(66.8)	59	(A)
25	Furniture and fixtures	(23.0)	58	(A)	(69.8)	55	40	(40.1)	56	58
26	Paper and allied products	79.4	53	10	(524.0)	56	31	(100.4)	56	75
27	Printing and publishing	75.4	60	4	(501.1)	63	29	351.4	60	6
28	Chemicals and allied products	231.8	63	3	989.2	61	1	249.6	68	3
29	Petroleum and coal products	174.0	57	2	410.4	51	7	(25.2)	55	88
30	Rubber and miscellaneous plastics products	58.9	58	4	306.7	63	3	89.6	62	5
31	Leather and leather products	10.5	54	8	31.8	59	10	12.0	53	8
32	Stone, clay, and glass products	62.3	59	6	424.5	57	8	(72.1)	59	(A)
33	Primary metal products	178.5	61	2	1127.4	56	2	105.3	68	6
34	Fabricated metal products	140.8	57	7	898.5	57	20	(314.6)	59	30
35	Machinery, except electrical	(192.4)	62	32	(556.4)	62	20	(423.9)	64	22
36	Electric and electronic equipment	141.1	65	6	348.4	66	6	(296.9)	63	23
37	Transportation equipment	154.3	73	2	(562.0)	69	24	(244.1)	69	49
38	Instruments and related products	41.8	68	5	80.0	66	4	113.4	78	7
39	Miscellaneous manufacturing industries	21.0	65	5	(82.8)	65	22	(105.4)	67	46

Note: Figures are estimates collected on the continuing ASM sample and, as such, are subject to sampling errors. Figures in parenthesis have standard errors of 15 percent or more.

(A) Indicates standard errors of 100 percent or more. The estimates are of limited reliability and should be used with caution.
(NA) Not available.

Engines and Turbines and Farm Machinery and Equipment

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DESCRIPTION OF INDUSTRIES

ENGINES AND TURBINES AND FARM MACHINERY AND EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3511	Turbines and Turbine Generator Sets
3519	Internal Combustion Engines, N.E.C.
3523	Farm Machinery and Equipment
3524	Lawn and Garden Equipment

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments in the industry, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 Supplement.

INDUSTRY 3511, TURBINES AND TURBINE GENERATOR SETS

This industry comprises establishments primarily engaged in the manufacture of steam turbines; hydraulic turbines; gas turbines, except aircraft; and complete steam, gas, and hydraulic turbine generator set units. Establishments primarily engaged in building or rebuilding locomotives are classified in industry 3743, and those manufacturing nonautomotive type generators which are not part of a turbine generator set are classified in industry 3621.

The products of this industry frequently take more than a year to manufacture. Therefore, value of shipments data may not accurately reflect the manufacturing activity for a given year. Shipments data may fluctuate considerably from year to year relative to material and labor input. For this reason, value added by manufacture may be more significant for measuring industry trends.

For a detailed list of products of industry 3511, refer to table 6a, product codes 35111 01 to 35112 81.

The total value of shipments for establishments classified in the Turbines and Turbine Generator Sets industry amounted to $2,734 million in 1977, an increase of 25 percent from 1972. The value of shipments of products classified as primary to the industry was $2,813 million, an increase of 35 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $1,556 million in 1977, was 27 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 40.9 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were New York, Pennsylvania, Massachusetts, and California, accounting for 77 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies, however, employment size ranges are provided.

Single-unit establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3519, INTERNAL COMBUSTION ENGINES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of diesel, semi-diesel, or other internal combustion engines, not elsewhere classified, for stationary, marine, traction, and other uses. Establishments primarily engaged in the manufacture of aircraft engines are classified in industry 3724; automotive engines, except diesel, in industry 3714; engine generator sets in industry 3621; and guided missile and space vehicle propulsion units in industry 3764. For a detailed list of products of industry 3519 refer to table 6a, product codes 35191 00 to 35199 19.

The total value of shipments for establishments specified in the Internal Combustion Engines, N.E.C. industry amounted to $7,697 million in 1977, an increase of 132 percent over 1972. The value of shipments of products classified as primary to the industry was $7,548 million, an increase of 125 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a

significant portion of this change were diesel, semi-diesel, and dual fuel engines, including automotive, for which shipments increased 135 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $3,407 million in 1977, was 103 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 88.8 thousand employees, an increase of 27 percent from 1972. The leading States in employment were Wisconsin, Illinois, Indiana, and Michigan, accounting for 72 percent of the industry's 1977 employment. Data for Wisconsin, Illinois, and Indiana have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

The 1977 census obtained data on shipments of most types of internal combustion engines only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of selected internal combustion engines are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35L, Internal Combustion Engines. Some of these data are also shown in table 6a.

Single-unit establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3523, FARM MACHINERY AND EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of farm machinery and equipment, including wheel tractors, for use in the preparation and maintenance of the soil; planting and harvesting of the crop; preparation of crops for market, on the farm; or for use in performing other farm operations and processes; and in the manufacture of commercial turf and grounds care equipment. Establishments primarily engaged in the manufacture of industrial trucks, tractors, and trailers used for handling materials in industrial plants, depots, and docks are classified in industry 3537; contractors' off-highway tractors in industry 3531; farm hand tools in group 342; and garden tractors, lawn mowers, and other lawn and garden equipment in industry 3524. For a detailed list of products of industry 3523, refer to table 6a, product codes 35231 00 to 3523B 31.

The total value of shipments for establishments specified in the Farm Machinery and Equipment industry amounted to $10,282 million in 1977, an increase of 127 percent from 1972. The value of shipments of products classified as primary to the industry was $9,549 million, an increase of 130 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were wheel tractors and attachments, (except contractors' off-highway type, lawn and garden tractors, and motor tillers), for which shipments increased 117 percent, and harvesting machinery, which showed a 152 percent increase in shipments. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $4,855 million in 1977, was 116 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 131.3 thousand employees, an increase of 26 percent from 1972. The leading States in employment were Iowa, Illinois, Nebraska, and Kansas, accounting for 47 percent of the industry's 1977 employment. Data for Iowa, Nebraska, and Kansas have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

The 1977 census obtained data on shipments of most farm equipment only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of farm equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35A, Farm Machinery and Equipment. These data are also shown in table 6a.

Single-unit establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of lawn mowers, garden tractors, and other lawn and garden equipment used for home lawn and garden care. Establishments primarily engaged in the manufacture of farm machinery are classified in industry 3523; hand lawn and garden shears and pruners in industry 3421; and other garden hand tools in industry 3423. For a detailed list of products of industry 3524, refer to table 6a, product codes 35241 01 to 35245 19.

The total value of shipments for establishments specified in the Lawn and Garden Equipment industry amounted to $1,570 million in 1977, an increase of 48 percent from 1972. The value of shipments of products classified as primary to the industry was $1,747 million, an increase of 53 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were power push-type lawn mowers for which shipments increased 40 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $632 million in 1977, was 39 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.5 thousand employees, an a

decrease of 6 percent from 1972. The leading States in employment were Wisconsin, Mississippi, North Carolina, and Illinois, accounting for 49 percent fo the industry's 1977 employment. Data for North Carolina have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

Single-unit establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (number)	All establishments: Total (number)	All establishments: With 20 employees or more (number)	All employees: Number 1,000	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3511, TURBINES AND TURBINE GENERATOR SETS																
1977 CENSUS.	69	84	38	40.9	710.1	24.8	51.2	369.0	1 556.4	1 245.0	2 733.7	45.8	(NA)	828.7	92	82
1976 ASM . .	(NA)	(NA)	(NA)	44.8	705.7	27.0	55.2	367.1	1 560.1	1 384.9	2 905.0	70.4	1 250.5	798.3	(NA)	(NA)
1975 ASM . .	(NA)	(NA)	(NA)	43.7	609.9	26.8	54.8	324.2	1 264.9	1 262.6	2 527.7	86.8	1 149.6	730.2	(NA)	(NA)
1974 ASM . .	(NA)	(NA)	(NA)	50.0	631.0	31.0	61.8	344.4	1 414.6	1 215.1	2 520.0	78.9	1 094.6	750.1	(NA)	(NA)
1973 ASM . .	(NA)	(NA)	(NA)	47.9	592.6	29.1	59.1	314.7	1 334.3	1 043.6	2 322.1	100.9	1 039.0	609.0	(NA)	(NA)
1972 CENSUS.	59	75	46	46.2	548.9	28.8	59.2	299.1	1 225.3	968.6	2 189.0	93.5	939.7	528.3	92	90
1971 ASM . .	(NA)	(NA)	(NA)	48.9	540.8	31.4	63.1	315.6	1 089.8	1 112.7	2 202.2	109.7	830.6	594.1	(NA)	(NA)
1970 ASM . .	(NA)	(NA)	(NA)	47.6	488.4	29.6	60.9	282.3	961.3	966.3	1 804.7	93.6	758.1	617.0	(NA)	(NA)
1969 ASM . .	(NA)	(NA)	(NA)	42.9	414.8	27.3	57.5	249.0	707.7	717.4	1 501.5	124.0	609.1	443.6	(NA)	(NA)
1968 ASM . .	(NA)	(NA)	(NA)	37.6	344.8	24.5	50.1	202.0	609.8	608.3	1 200.8	113.9	532.0	379.5	(NA)	(NA)
1967 CENSUS.	20	27	23	36.2	318.8	24.6	49.9	195.6	582.3	475.5	1 043.2	66.3	442.2	314.2	83	78
1966 ASM . .	(NA)	(NA)	(NA)	34.4	299.5	23.8	49.7	192.6	504.8	424.3	867.2	33.8	(NA)	316.1	(NA)	(NA)
1965 ASM . .	(NA)	(NA)	(NA)	34.6	285.1	23.8	47.8	182.1	477.0	351.1	793.9	29.3	(NA)	253.8	(NA)	(NA)
1964 ASM . .	(NA)	(NA)	(NA)	32.6	264.0	21.7	42.4	164.4	458.4	296.3	744.8	14.2	323.8	201.3	(NA)	(NA)
1963 CENSUS.	17	22	21	30.9	237.5	19.9	38.9	141.7	379.9	242.7	616.4	19.4	328.3	176.2	85	82
INDUSTRY 3519, INTERNAL COMBUSTION ENGINES, N.E.C.																
1977 CENSUS.	186	232	131	88.8	1 528.6	65.3	130.1	1 036.2	3 406.5	4 459.7	7 696.8	285.8	(NA)	1 342.0	91	88
1976 ASM . .	(NA)	(NA)	(NA)	79.8	1 232.9	58.2	114.0	819.9	2 640.2	3 549.7	6 104.1	227.2	2 054.9	1 083.9	(NA)	(NA)
1975 ASM . .	(NA)	(NA)	(NA)	77.5	1 066.6	55.9	106.9	705.4	2 169.4	2 918.3	5 093.3	252.1	1 793.9	969.3	(NA)	(NA)
1974 ASM . .	(NA)	(NA)	(NA)	80.8	1 079.0	60.6	124.8	750.9	2 251.4	2 850.1	4 918.7	278.3	1 524.4	977.7	(NA)	(NA)
1973 ASM . .	(NA)	(NA)	(NA)	75.8	919.1	57.0	116.8	642.9	1 933.0	2 125.3	3 989.8	197.4	1 284.5	732.1	(NA)	(NA)
1972 CENSUS.	145	179	109	69.9	771.4	52.2	104.3	534.5	1 674.2	1 747.1	3 318.4	92.0	1 101.2	639.5	91	85
1971 ASM . .	(NA)	(NA)	(NA)	65.9	660.8	48.8	93.6	441.4	1 440.7	1 388.3	2 822.7	78.0	1 056.7	555.7	(NA)	(NA)
1970 ASM . .	(NA)	(NA)	(NA)	69.3	659.6	51.2	100.4	439.6	1 326.6	1 351.2	2 676.0	134.5	1 048.7	563.6	(NA)	(NA)
1969 ASM . .	(NA)	(NA)	(NA)	75.5	686.2	56.2	114.4	468.3	1 375.5	1 478.2	2 804.0	81.9	908.4	539.4	(NA)	(NA)
1968 ASM . .	(NA)	(NA)	(NA)	66.1	545.2	49.5	100.0	373.1	1 111.0	1 212.0	2 279.0	88.7	799.1	450.6	(NA)	(NA)
1967 CENSUS.	129	155	96	63.7	500.8	47.5	97.2	344.6	1 015.8	1 091.5	2 093.2	97.6	724.3	414.1	89	83
1966 ASM . .	(NA)	(NA)	(NA)	64.1	494.0	48.1	102.3	349.4	1 074.7	1 041.4	2 052.5	71.8	(NA)	402.7	(NA)	(NA)
1965 ASM . .	(NA)	(NA)	(NA)	59.2	426.7	44.5	89.5	292.4	912.9	888.6	1 768.8	58.8	(NA)	343.4	(NA)	(NA)
1964 ASM . .	(NA)	(NA)	(NA)	58.2	402.4	42.1	85.6	268.4	823.3	830.2	1 622.2	45.9	564.0	310.8	(NA)	(NA)
1963 CENSUS.	120	143	81	55.7	371.8	41.8	85.0	260.0	733.6	745.8	1 473.6	34.8	521.6	279.3	86	85
INDUSTRY 3523, FARM MACHINERY AND EQUIPMENT[3]																
1977 CENSUS.	1 864	2 004	664	131.3	1 971.9	96.2	182.7	1 313.3	4 854.5	5 469.7	10 281.7	341.8	(NA)	2 083.4	92	95
1976 ASM . .	(NA)	(NA)	(NA)	127.3	1 741.8	94.3	179.8	1 178.1	4 248.9	4 913.8	9 133.1	254.3	1 896.9	1 991.6	(NA)	(NA)
1975 ASM . .	(NA)	(NA)	(NA)	130.0	1 669.2	97.9	193.2	1 161.8	3 898.6	4 691.6	8 530.9	301.3	1 795.6	1 910.8	(NA)	(NA)
1974 ASM . .	(NA)	(NA)	(NA)	132.6	1 558.2	103.2	206.2	1 119.6	3 567.6	3 846.7	7 078.5	199.6	1 478.6	1 783.3	(NA)	(NA)
1973 ASM . .	(NA)	(NA)	(NA)	123.1	1 292.2	94.7	184.8	912.6	2 777.6	3 098.3	5 693.7	109.3	1 319.9	1 295.8	(NA)	(NA)
1972 CENSUS.	1 465	1 547	563	104.6	1 045.7	79.9	157.1	732.3	2 248.0	2 401.5	4 531.4	116.0	1 288.9	998.7	90	94
INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT[3]																
1977 CENSUS.	136	154	91	19.5	222.4	14.6	27.5	141.3	631.7	939.1	1 569.5	28.5	(NA)	379.3	92	82
1976 ASM . .	(NA)	(NA)	(NA)	18.7	207.1	13.8	27.3	134.8	534.2	862.2	1 400.6	33.2	288.9	359.8	(NA)	(NA)
1975 ASM . .	(NA)	(NA)	(NA)	19.6	202.8	14.1	27.6	131.8	466.6	832.4	1 352.7	46.1	268.2	373.0	(NA)	(NA)
1974 ASM . .	(NA)	(NA)	(NA)	25.3	232.1	19.1	36.6	156.5	646.4	998.0	1 562.9	40.8	280.4	500.7	(NA)	(NA)
1973 ASM . .	(NA)	(NA)	(NA)	21.7	193.6	16.5	32.2	129.7	468.5	738.6	1 174.1	29.2	240.5	305.4	(NA)	(NA)
1972 CENSUS.	100	110	86	20.7	165.5	15.1	29.3	108.3	453.2	652.2	1 059.1	47.6	228.0	287.2	90	82

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified.
(S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1] In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2] For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3] Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4] Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5] Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6] Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7] Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8] Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dol.)	Assets per employee (dol.)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3511, TURBINES AND TURBINE GENERATOR SETS											
1977 CENSUS.	17 362	(NA)	61	2 065	7.21	46	72	(NA)	38 054	46	30.40
1976 ASM . .	15 752	27 913	60	2 044	6.65	48	72	43	34 824	45	28.26
1975 ASM . .	13 957	26 307	61	2 045	5.92	50	74	45	28 945	48	23.08
1974 ASM . .	12 620	21 892	62	1 994	5.57	48	73	43	28 292	45	22.89
1973 ASM . .	12 372	21 691	61	2 031	5.32	45	70	45	27 856	44	22.58
1972 CENSUS.	11 881	20 340	62	2 056	5.05	44	69	43	26 522	45	20.70
1971 ASM . .	11 059	16 986	64	2 010	5.00	51	75	38	22 286	50	17.27
1970 ASM . .	10 261	15 926	62	2 057	4.64	54	81	42	20 195	51	15.78
1969 ASM . .	9 669	14 198	64	2 106	4.33	48	75	41	16 497	59	12.31
1968 ASM . .	9 170	14 149	65	2 045	4.03	51	79	44	16 218	57	12.17
1967 CENSUS.	8 807	12 215	68	2 028	3.92	46	76	42	16 086	55	11.67
1966 ASM . .	8 706	(NA)	69	2 088	3.88	49	83	(NA)	14 674	59	10.16
1965 ASM . .	8 240	(NA)	69	2 008	3.81	44	80	(NA)	13 786	60	9.98
1964 ASM . .	8 098	9 933	67	1 954	3.88	40	75	43	14 061	58	10.81
1963 CENSUS.	7 686	10 625	64	1 955	3.64	39	78	53	12 294	63	9.77
INDUSTRY 3519, INTERNAL COMBUSTION ENGINES, N.E.C.											
1977 CENSUS.	17 214	(NA)	74	1 992	7.96	58	78	(NA)	38 361	45	26.18
1976 ASM . .	15 450	25 751	73	1 959	7.19	58	78	34	33 085	47	23.16
1975 ASM . .	13 763	23 147	72	1 912	6.60	57	78	35	27 992	49	20.29
1974 ASM . .	13 354	18 866	75	2 059	6.02	58	80	31	27 864	48	18.04
1973 ASM . .	12 125	16 946	75	2 049	5.50	53	76	32	25 501	48	16.55
1972 CENSUS.	11 036	15 754	75	1 998	5.12	53	76	33	23 951	46	16.05
1971 ASM . .	10 027	16 035	74	1 918	4.72	49	73	37	21 862	46	15.39
1970 ASM . .	9 518	15 133	74	1 961	4.38	50	75	39	19 143	50	13.21
1969 ASM . .	9 089	12 032	74	2 036	4.09	53	77	32	18 219	50	12.02
1968 ASM . .	8 248	12 089	75	2 020	3.73	53	77	35	16 808	49	11.11
1967 CENSUS.	7 862	11 370	75	2 046	3.55	52	76	35	15 947	49	10.45
1966 ASM . .	7 707	(NA)	75	2 127	3.42	51	75	(NA)	16 766	46	10.51
1965 ASM . .	7 208	(NA)	75	2 011	3.27	50	74	(NA)	15 421	47	10.20
1964 ASM . .	6 914	9 691	72	2 033	3.14	51	76	35	14 146	49	9.62
1963 CENSUS.	6 675	9 364	75	2 033	3.06	51	76	35	13 171	51	8.63
INDUSTRY 3523, FARM MACHINERY AND EQUIPMENT											
1977 CENSUS	15 018	(NA)	73	1 899	7.19	53	72	(NA)	36 973	41	26.57
1976 ASM . .	13 683	14 901	74	1 907	6.55	54	73	21	33 377	41	23.63
1975 ASM . .	12 840	13 812	75	1 973	6.01	55	75	21	29 989	43	20.18
1974 ASM . .	11 751	11 151	78	1 998	5.43	54	76	21	26 905	44	17.30
1973 ASM . .	10 497	10 722	77	1 951	4.94	54	77	23	22 564	47	15.03
1972 CENSUS.	9 997	12 322	76	1 966	4.66	53	76	28	21 491	47	14.31
INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT											
1977 CENSUS.	11 405	(NA)	75	1 884	5.14	60	74	(NA)	32 395	35	22.97
1976 ASM . .	11 075	15 449	74	1 978	4.94	62	76	21	28 567	39	19.57
1975 ASM . .	10 347	13 684	72	1 957	4.78	62	77	20	23 806	43	16.91
1974 ASM . .	9 174	11 083	75	1 916	4.28	64	79	18	25 549	36	17.66
1973 ASM . .	8 922	11 083	76	1 952	4.03	63	79	20	21 590	41	14.55
1972 CENSUS.	7 995	11 014	73	1 940	3.70	62	77	22	21 894	37	15.47

NOTE: FOR QUALIFICATIONS TO DATA, SEE FOOTNOTES ON TABLE 1A.

(NA) NOT AVAILABLE.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

(For explanation of terms, see appendix A)

Geographic area		1977										1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
INDUSTRY 3511, TURBINES, TURBINE GENERATOR SETS														
United States		84	38	40.9	710.1	24.8	51.2	369.0	1,556.4	1,245.0	2,733.7	45.8	46.2	1,225.3
New England:														
Maine	(NA)	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Massachusetts	(NA)	6	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Connecticut	(NA)	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Middle Atlantic:														
New York	(NA)	7	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
New Jersey		7	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pennsylvania	(NA)	7	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East North Central:														
Wisconsin	(NA)	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West North Central:														
Minnesota		1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Atlantic:														
North Carolina	(NA)	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Carolina	(NA)	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pacific:														
California		9	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
INDUSTRY 3519, INTERNAL COMBUSTION ENGINES, N.E.C.														
United States		232	131	88.8	1,528.6	65.3	130.1	1,036.2	3,406.5	4,459.7	7,696.5	285.8	69.9	1,674.2
New England:														
Massachusetts	(NA)	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Connecticut	(NA)	4	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Middle Atlantic:														
New York	(NA)	7	3	1.5	24.1	.8	1.5	10.6	50.2	48.7	103.5	12.4	EE	(D)
Pennsylvania	(NA)	9	4	.5	7.0	.4	.8	5.1	22.3	15.6	36.1	.7	AA	(D)
East North Central:														
Ohio	(NA)	14	10	3.9	64.4	3.0	6.0	48.0	183.8	151.7	313.4	(D)	FF	(D)
Indiana	(NA)	10	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Illinois	(NA)	19	16	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Michigan	(NA)	15	10	11.3	235.0	7.6	16.2	149.6	658.5	752.7	1,352.8	(D)	FF	(D)
Wisconsin	(NA)	25	24	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central:														
Minnesota	(NA)	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Iowa	(NA)	9	8	2.7	44.7	2.0	4.1	32.5	94.8	170.5	262.3	12.0	EE	(D)
Missouri	(NA)	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic:														
Maryland	(NA)	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West Virginia	(NA)	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina		3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	(NA)	8	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central:														
Tennessee	(NA)	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central:														
Oklahoma	(NA)	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Texas		20	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Mountain:														
Colorado	(NA)	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Pacific:														
California	(NA)	43	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

(For explanation of terms, see appendix A)

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
	INDUSTRY 3523, FARM MACHINERY EQUIPMENT													
United States		2,004	664	131.3	1,971.9	96.2	182.7	1,313.3	4,854.5	5,469.7	10,281.7	341.8	104.6	2,248.0
New England:														
Massachusetts		8	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	(NA)	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Middle Atlantic:														
New York		34	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
New Jersey	(NA)	14	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pennsylvania	(NA)	44	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East North Central:														
Ohio	(NA)	58	24	3.0	40.9	2.2	4.2	27.3	85.0	85.9	172.9	4.0	2.9	51.7
Indiana	(NA)	68	30	4.4	64.4	3.1	6.2	43.7	154.1	143.9	304.4	8.4	FF	(D)
Illinois	(NA)	119	64	23.9	418.8	18.3	34.5	299.3	969.9	1,295.8	2,279.7	67.1	20.4	459.0
Michigan		56	23	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Wisconsin	(NA)	102	43	9.7	143.3	7.2	13.6	94.8	456.2	482.5	921.4	28.6	7.9	192.6
West North Central:														
Minnesota	(NA)	103	35	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Iowa	(NA)	148	73	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Missouri		49	10	2.4	34.2	1.8	3.3	24.8	137.1	130.3	264.1	8.7	2.0	59.1
North Dakota	(NA)	35	12	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Dakota	(NA)	23	8	.7	7.3	.6	1.2	5.4	18.7	19.9	39.6	1.3	.4	7.0
Nebraska		106	34	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Kansas	(NA)	134	48	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.7	68.9
South Atlantic:														
Virginia	(NA)	9	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
North Carolina	(NA)	43	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Carolina	(NA)	7	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	(NA)	58	18	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Florida	(NA)	40	6	.6	8.2	.4	.9	5.1	21.9	25.7	47.2	1.0	.5	9.4
East South Central:														
Kentucky	(NA)	10	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Tennessee	(NA)	21	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Alabama	(NA)	35	12	1.5	15.3	1.1	1.8	7.2	33.2	35.9	63.7	1.1	EE	(D)
Mississippi	(NA)	26	16	1.0	9.6	.8	1.5	6.6	23.3	32.8	55.1	1.0	.7	9.3
West South Central:														
Arkansas	(NA)	33	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.7	7.5
Louisiana	(NA)	19	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Oklahoma	(NA)	38	7	.9	11.2	.6	1.3	6.6	23.7	32.8	53.5	2.5	CC	(D)
Texas	(NA)	132	36	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain:														
Idaho	(NA)	30	8	.7	7.2	.5	.9	4.7	9.6	16.0	24.8	(D)	.4	4.9
Colorado	(NA)	36	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.9	15.3
Arizona	(NA)	16	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific:														
Washington	(NA)	43	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Oregon	(NA)	36	12	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	(NA)	209	45	3.7	47.6	2.7	5.1	29.4	105.5	101.8	205.6	(D)	EE	(D)
	INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT													
United States		154	91	19.5	222.4	14.6	27.5	141.3	631.7	939.1	1,569.5	28.5	20.7	453.2
Middle Atlantic:														
New York		5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East North Central:														
Ohio	(NA)	14	10	1.4	13.0	1.1	2.6	9.2	32.7	61.1	90.3	1.8	2.4	67.4
Indiana		10	7	1.0	11.1	.7	1.3	6.2	34.7	38.8	75.8	.4	EE	(D)
Illinois	(NA)	10	7	1.5	17.8	1.1	2.1	12.2	32.2	68.7	94.7	1.5	1.2	30.4
Michigan	(NA)	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Wisconsin	(NA)	15	11	4.3	67.1	2.9	5.6	40.9	163.0	200.1	367.7	10.5	4.8	113.7
West North Central:														
Minnesota		10	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Iowa		1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Missouri		7	7	.4	4.0	.2	.4	2.1	9.2	17.9	27.4	.5	CC	(D)
Kansas	(NA)	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.4	5.1

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

(For explanation of terms, see appendix A)

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
	INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT--Con.													
United States--Con.														
South Atlantic:														
Maryland		1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	(NA)	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Carolina		4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Carolina		4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia		6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
East South Central:														
Kentucky	(NA)	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Alabama		6	3	.2	1.6	.1	.3	1.0	4.2	11.4	15.6	.1	EE	(D)
Mississippi		7	5	1.9	15.6	1.5	3.4	11.8	39.1	93.8	131.7	2.0	1.9	41.8
West South Central:														
Texas		5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pacific:														
California	(NA)	13	7	1.1	7.8	.9	1.6	5.3	21.2	31.9	50.6	(D)	EE	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1--10 to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA--150 to 249 employees; BB--250 to 499 employees; CC--500 to 999 employees; EE--1,000 to 2,499 employees; FF--2,500 employees or more.

Table 3a. Summary Statistics for the Industry: 1977

(For explanation of terms, see appendix A)

Item	Turbines and turbine generator sets (SIC 3511)	Internal combustion engines, n.e.c. (SIC 3519)	Farm machinery and equipment (SIC 3523)	Lawn and garden equipment (SIC 3524)
PRIMARY PRODUCT SPECIALIZATION RATIO[1] . . . . PERCENT	92	91	92	92
COVERAGE RATIO[2] . . . . . DO. .	82	88	95	82
ALL ESTABLISHMENTS . . . . . NUMBER.	84	232	2 004	154
WITH 1 TO 19 EMPLOYEES . . . . . DO. .	46	101	1 340	63
WITH 20 TO 99 EMPLOYEES. . . . . DO. .	14	45	455	46
WITH 100 OR MORE EMPLOYEES . . . . . DO. .	24	86	209	45
ALL EMPLOYEES, AVERAGE FOR YEAR . . . . . 1,000 .	40.9	88.8	131.3	19.5
PAYROLL FOR YEAR, ALL EMPLOYEES . . . . . MIL. DOL.	710.1	1 528.6	1 971.9	222.4
PRODUCTION WORKERS:				
AVERAGE FOR YEAR. 1,000	24.8	65.3	96.2	14.6
MARCH . . . . . DO. .	25.1	64.8	98.0	16.1
MAY . . . . . DO. .	24.7	63.7	98.3	15.0
AUGUST. . . . . DO. .	24.8	65.4	95.4	12.6
NOVEMBER. . . . . DO. .	24.7	67.5	92.7	14.7
HOURS . . . . . .MILLIONS	51.2	130.1	182.7	27.5
JANUARY TO MARCH. . . . . DO. .	12.8	32.8	47.1	7.6
APRIL TO JUNE . . . . . DO. .	12.9	31.9	48.2	7.3
JULY TO SEPTEMBER . . . . . DO. .	12.4	31.6	43.6	5.7
OCTOBER TO DECEMBER . . . . . DO. .	13.1	33.8	43.7	7.0
WAGES . . . . . MIL. DOL.	369.0	1 036.2	1 313.3	141.3
COST OF MATERIALS, ETC. . . . . DO. .	1 245.0	4 459.7	5 469.7	939.1
MATERIALS, PARTS, CONTAINERS, ETC., CONSUMED. DO. .	1 111.4	4 150.6	5 030.4	909.1
RESALES . . . . . DO. .	30.1	212.3	260.5	14.5
FUELS CONSUMED. . . . . DO. .	15.6	33.6	55.0	4.5
PURCHASED ELECTRIC ENERGY . . . . . DO. .	18.8	45.3	49.4	6.8
CONTRACT WORK . . . . . DO. .	69.1	18.0	74.4	4.1
VALUE OF SHIPMENTS, INCLUDING RESALES . . . . . DO. .	2 733.7	7 696.5	10 281.7	1 569.5
VALUE OF RESALES. . . . . DO. .	42.4	297.1	351.1	20.1
VALUE ADDED BY MANUFACTURE. . . . . DO. .	1 556.4	3 406.5	4 854.5	631.7
MANUFACTURERS' INVENTORIES:				
BEGINNING OF YEAR . . . . . DO. .	775.5	1 133.5	2 088.8	351.7
FINISHED PRODUCTS . . . . . DO. .	103.0	330.7	683.5	160.7
WORK IN PROCESS . . . . . DO. .	506.4	615.5	730.0	89.1
MATERIALS, SUPPLIES, FUEL, ETC. . . . . DO. .	166.2	187.3	675.3	101.8
END OF YEAR . . . . . DO. .	828.7	1 342.0	2 083.4	379.3
FINISHED PRODUCTS . . . . . DO. .	142.5	413.4	693.4	162.8
WORK IN PROCESS . . . . . DO. .	534.5	702.5	762.7	88.3
MATERIALS, SUPPLIES, FUEL, ETC. . . . . DO. .	151.7	226.1	627.4	128.2
CAPITAL EXPENDITURES FOR PLANT AND EQUIPMENT . DO. .	47.6	298.0	355.8	31.6
NEW CAPITAL EXPENDITURES. . . . . DO. .	45.8	285.8	341.8	28.5
NEW BUILDINGS AND OTHER STRUCTURES. . . . . DO. .	5.8	39.1	70.5	4.9
NEW MACHINERY AND EQUIPMENT . . . . . DO. .	40.0	246.7	271.3	23.6
USED CAPITAL EXPENDITURES . . . . . DO. .	1.9	12.2	13.9	3.1

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.
[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Turbines and turbine generator sets (SIC 3511)		Internal combustion engines, n.e.c. (SIC 3519)		Farm machinery and equipment (SIC 3523)		Lawn and garden equipment (SIC 3524)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	7.5	1	12.8	4	13.6	3	1.4	7
Response coverage ratio[2] (percent)	60	(X)	84	(X)	54	(X)	60	(X)
Machinery	26.2	1	68.0	2	31.2	6	6.0	5
Response coverage ratio[2] (percent)	59	(X)	95	(X)	53	(X)	64	(X)
Cost of purchased communication services	7.5	2	16.0	4	17.8	7	3.9	5
Response coverage ratio[2] (percent)	81	(X)	88	(X)	60	(X)	60	(X)
Rental payments	13.6	1	26.6	5	51.8	6	9.1	7
Buildings and other structures	3.1	2	(6.2)	22	(14.9)	16	3.9	12
Machinery and equipment	10.6	1	20.4	1	36.7	5	5.1	6
Supplemental labor costs	158.6	1	367.7	1	500.6	1	47.1	3
Legal costs	51.5	1	110.0	1	151.8	1	19.4	2
Voluntary costs	107.1	1	257.7	1	348.8	1	27.7	3
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	307.8	1	620.4	1	636.2	2	100.2	2
New capital expenditures	5.7	4	38.5	2	70.5	7	5.3	10
Used capital expenditures	0.4	1	(5.5)	35	(4.2)	22	(2.0)	39
Retirements	2.1	1	2.7	3	11.0	6	2.1	13
End of year	311.8	1	661.7	1	699.9	2	105.4	2
Machinery and equipment:								
Beginning of year	868.7	1	1,485.3	1	1,380.6	2	192.5	2
New capital expenditures	39.7	2	245.4	1	268.4	2	24.2	4
Automobiles, trucks, etc., for highway use[3]	(0.3)	(A)	(3.6)	(A)	(7.6)	(A)	(0.5)	(A)
Computers and peripheral data processing equipment[3]	(1.5)	(A)	(3.7)	(A)	(8.3)	(A)	(0.5)	(A)
All other[3]	(36.4)	55	236.4	8	239.3	8	(21.3)	94
New machinery and equipment, n.s.k.[4]	(1.5)	(A)	(1.7)	(A)	(13.2)	(A)	(1.9)	(A)
Used capital expenditures	1.5	1	(10.0)	26	11.4	13	1.7	9
Retirements	12.3	1	37.0	2	65.1	5	10.6	8
End of year	897.6	1	1,703.7	1	1,595.3	1	207.8	2
Total gross value of depreciable assets:								
Beginning of year	1,176.5	1	2,105.7	1	2,016.7	1	292.7	2
New capital expenditures	45.4	2	284.0	1	338.9	3	29.5	3
Used capital expenditures	1.9	1	(15.5)	29	(15.6)	15	(3.6)	22
Retirements	14.4	1	39.7	2	76.1	5	12.6	9
End of year	1,209.4	1	2,365.4	1	2,295.1	1	313.2	2
Depreciation charges during 1977	73.6	1	149.4	1	151.3	2	22.5	2
Buildings and other structures	12.1	1	23.8	1	27.2	3	4.8	3
Machinery and equipment	61.6	1	125.6	1	124.1	2	17.7	2

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error, and hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

(For explanation of terms, see appendix A)

Industry and employment size class[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3511, TURBINES AND TURBINE GENERATOR SETS											
Total	84	40.9	710.1	24.8	51.2	369.0	1,556.4	1,245.0	2,733.7	45.8	828.7
Establishments with an average of-											
1 to 4 employees E8	24	(Z)	.6	(Z)	(Z)	.3	1.0	1.1	2.3	.1	.6
5 to 9 employees E8	10	.1	1.0	(Z)	.1	.5	1.8	1.6	3.4	.1	.9
10 to 19 employees E7	12	.2	2.6	.1	.2	1.3	7.5	6.6	13.9	.3	4.0
20 to 49 employees	9	.3	3.9	.2	.4	2.6	7.2	6.3	13.6	.3	2.9
50 to 99 employees E1	5	(.6)	(8.7)	(.4)	(.9)	(4.7)	(21.9)	(15.3)	(38.0)	(2.1)	(10.5)
100 to 249 employees	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	5	1.7	24.8	1.1	1.9	14.2	101.2	83.3	186.5	.8	45.1
500 to 999 employees	6	4.8	76.5	3.4	7.0	46.9	211.0	157.1	360.0	6.7	113.6
1,000 to 2,499 employees	6	(33.2)	(592.0)	(19.5)	(40.8)	(298.4)	(1,204.8)	(973.8)	(2,116.0)	(35.5)	(651.0)
2,500 employees or more	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2] E0	35	.2	3.0	.1	.2	1.5	7.6	7.0	14.7	.3	3.9
INDUSTRY 3519, INTERNAL COMBUSTION ENGINES, N.E.C.											
Total	232	88.8	1,528.6	65.3	130.1	1,036.2	3,406.5	4,459.7	7,696.5	285.8	1,342.0
Establishments with an average of-											
1 to 4 employees E9	62	.1	1.5	.1	.1	1.0	2.5	3.7	6.6	.3	1.2
5 to 9 employees E8	19	.1	1.9	.1	.2	1.3	3.9	5.0	8.9	.3	1.6
10 to 19 employees E5	20	.3	3.9	.2	.4	2.5	6.8	8.1	14.9	.5	2.5
20 to 49 employees	23	.7	9.2	.6	1.1	6.5	19.6	21.9	40.4	.8	8.3
50 to 99 employees	22	1.6	19.6	1.1	2.1	12.3	47.0	58.7	104.7	2.4	25.1
100 to 249 employees	29	5.2	69.9	4.0	7.8	47.1	183.8	221.5	404.7	8.2	72.6
250 to 499 employees	16	5.2	72.4	3.9	7.6	49.0	168.1	132.2	282.8	36.7	73.7
500 to 999 employees	18	13.6	203.4	9.9	19.4	140.1	461.2	518.4	957.0	21.6	196.6
1,000 to 2,499 employees	16	24.2	397.4	18.1	36.8	290.8	883.3	1,304.8	2,177.1	65.8	410.0
2,500 employees or more	7	37.8	749.2	27.4	54.5	485.6	1,630.3	2,185.3	3,699.3	149.2	550.3
Covered by administrative records[2] E0	77	.4	5.6	.3	.5	3.7	9.9	13.1	23.0	.9	4.1
INDUSTRY 3523, FARM MACHINERY AND EQUIPMENT											
Total	2,004	131.3	1,971.9	96.2	182.7	1,313.3	4,854.5	5,469.7	10,281.7	341.8	2,083.4
Establishments with an average of-											
1 to 4 employees E9	775	1.2	16.4	1.1	1.7	11.1	25.0	42.8	79.3	3.1	17.7
5 to 9 employees E8	289	2.0	25.8	1.5	2.7	17.3	53.9	63.4	116.6	4.0	26.3
10 to 19 employees E6	276	3.8	48.5	2.8	5.2	32.1	103.2	116.5	217.9	6.2	49.6
20 to 49 employees E1	296	9.2	106.9	6.9	13.1	66.2	235.1	295.6	523.5	12.5	120.5
50 to 99 employees	159	11.2	131.0	8.2	16.0	81.5	287.0	312.4	593.4	16.3	157.6
100 to 249 employees	134	19.9	233.7	14.4	27.7	143.4	557.8	648.8	1,181.6	32.3	324.3
250 to 499 employees	35	11.7	144.3	8.6	15.4	88.9	309.6	324.8	632.0	16.1	169.8
500 to 999 employees	18	13.4	190.9	8.8	17.4	112.6	460.7	648.9	1,093.6	46.8	249.9
1,000 to 2,499 employees	14	23.4	405.7	17.0	32.0	281.1	1,081.3	1,133.5	2,220.5	49.7	444.1
2,500 employees or more	8	35.5	668.6	26.8	51.6	479.0	1,741.0	1,883.0	3,623.2	154.8	523.5
Covered by administrative records[2] E0	1,075	4.9	66.6	3.9	6.9	45.0	141.9	168.9	310.8	9.0	69.0
INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT											
Total	154	19.5	222.4	14.6	27.5	141.3	631.7	939.1	1,569.5	28.5	379.3
Establishments with an average of-											
1 to 4 employees E6	28	(Z)	.6	(Z)	.1	.4	1.5	1.7	3.1	.1	.7
5 to 9 employees E3	20	.2	1.7	.1	.2	1.0	4.3	4.9	9.0	.2	1.9
10 to 19 employees E2	15	.2	2.4	.2	.3	1.5	4.9	9.7	14.5	.2	3.2
20 to 49 employees	31	1.0	9.7	.7	1.2	5.4	25.8	40.8	65.7	1.5	16.5
50 to 99 employees	15	.9	8.8	.8	1.3	5.9	21.3	38.6	58.0	.8	19.3
100 to 249 employees	18	2.7	27.8	2.1	4.2	17.0	79.6	139.3	215.9	3.7	70.9
250 to 499 employees	13	4.8	54.7	3.7	6.4	35.7	209.9	268.5	483.2	6.5	108.3
500 to 999 employees	13	(9.6)	(116.7)	(7.0)	(13.8)	(74.5)	(284.5)	(435.7)	(720.1)	(15.5)	(158.7)
1,000 to 2,499 employees	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2] E0	29	.1	1.5	.1	.2	1.0	3.6	5.6	9.1	.2	2.2

(D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1--1- to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied to other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

(Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary; excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A)

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3511	Turbines and turbine generator sets:										
	Entire industry	84	40.9	710.1	24.8	51.2	369.0	1,556.4	1,245.0	2,733.7	45.8
	Establishments with 75 percent specialization or more	75	32.3	576.4	19.4	39.1	290.0	1,285.5	1,042.0	2,261.8	36.4
35111	Steam, gas, and hydraulic turbine generator sets:										
	Establishments with this product class primary	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	13	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35112	Steam, gas, and hydraulic turbines and parts:										
	Establishments with this product class primary	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	13	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3519	Internal combustion engines, n.e.c.:										
	Entire industry	232	88.8	1,528.6	65.3	130.1	1,036.2	3,406.5	4,459.7	7,696.5	285.8
	Establishments with 75 percent specialization or more	206	75.1	1,291.2	55.3	109.3	871.4	2,937.3	3,602.9	6,383.2	264.6
35191	Gasoline engines under 11 horsepower:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35192	Gasoline engines, 11 horsepower and over:										
	Establishments with this product class primary	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35193	Diesel, semidiesel, dual fuel engine, exc. auto:										
	Establishments with this product class primary	8	13.0	267.7	9.0	19.0	177.3	695.6	853.4	1,487.5	51.3
	Establishments with 75 percent specialization or more	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35194	Diesel, semidiesel, dual fuel engine, automotive:										
	Establishments with this product class primary	8	18.6	364.5	12.5	25.8	222.4	839.2	1,195.4	2,006.5	(D)
	Establishments with 75 percent specialization or more	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35195	Outboard engines:										
	Establishments with this product class primary	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35196	Gas engines, except turbines:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35197	Tank and converted internal combustion engines:										
	Establishments with this product class primary	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35199	Parts for internal combustion engines:										
	Establishments with this product class primary	84	27.7	421.1	20.9	42.0	292.6	834.3	979.3	1,780.7	148.4
	Establishments with 75 percent specialization or more	62	19.4	285.8	15.3	30.8	212.4	626.2	581.8	1,187.2	(D)
3523	Farm machinery and equipment:										
	Entire industry	2,004	131.3	1,971.9	96.2	182.7	1,313.3	4,854.5	5,469.7	10,281.7	341.8
	Establishments with 75 percent specialization or more	1,902	113.6	1,719.2	83.4	158.3	1,146.7	4,359.8	4,906.1	9,220.8	303.8
35231	Wheel tractors and attachments:										
	Establishments with this product class primary	16	29.3	524.1	22.7	42.5	381.7	1,509.0	2,052.7	3,552.9	134.7
	Establishments with 75 percent specialization or more	9	9.4	167.3	7.4	13.7	119.9	429.3	962.2	1,404.7	24.7
35232	Dairy equipment, sprayers, elevators, blowers:										
	Establishments with this product class primary	54	5.1	61.0	3.7	7.4	35.7	149.6	161.7	301.5	6.6
	Establishments with 75 percent specialization or more	34	2.9	35.2	2.3	4.6	21.3	85.2	108.2	188.6	4.0
35233	Planting, seeding, and fertilizing machinery:										
	Establishments with this product class primary	56	8.2	119.0	5.7	10.8	75.5	258.2	260.9	538.3	14.1
	Establishments with 75 percent specialization or more	30	2.5	27.5	1.7	3.4	16.3	56.2	71.3	127.7	3.6

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

(Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary; excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A)

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
35234	Harrows, rollers, pulverizers, stalk cutters:										
	Establishments with this product class primary	57	6.1	70.8	4.3	7.9	38.5	155.0	172.8	324.6	8.8
	Establishments with 75 percent specialization or more	29	2.4	28.1	1.8	3.2	15.1	64.0	70.1	129.0	4.3
35235	Harvesting machinery, except for hay and straw:										
	Establishments with this product class primary	71	24.7	425.4	18.7	36.5	307.8	1,080.8	1,047.5	2,124.2	78.6
	Establishments with 75 percent specialization or more	40	9.0	154.8	7.0	13.5	113.8	419.9	466.2	873.5	39.8
35236	Haying machinery:										
	Establishments with this product class primary	19	8.7	144.2	5.2	10.6	78.4	314.3	230.3	526.8	12.1
	Establishments with 75 percent specialization or more	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35237	Plows:										
	Establishments with this product class primary	14	3.2	50.0	2.4	4.4	35.9	105.5	113.2	224.1	4.0
	Establishments with 75 percent specialization or more	4	.3	2.4	.2	.4	1.6	5.5	5.3	10.6	.3
35238	Farm machinery and equipment, n.e.c.:										
	Establishments with this product class primary	263	22.5	270.9	15.7	30.5	156.0	623.2	729.0	1,332.7	37.2
	Establishments with 75 percent specialization or more	190	12.6	148.8	8.9	16.8	85.7	342.2	432.8	757.6	19.9
35239	Parts for farm machinery and equipment:										
	Establishments with this product class primary	94	11.9	162.2	8.8	16.2	106.8	346.4	330.9	665.6	25.4
	Establishments with 75 percent specialization or more	54	5.9	86.1	4.5	8.2	59.8	172.2	180.6	350.7	16.6
3523A	Commercial turf and grounds mowing equipment:										
	Establishments with this product class primary	18	1.6	17.5	1.2	2.1	11.4	48.1	58.3	105.8	1.3
	Establishments with 75 percent specialization or more	14	.8	8.4	.7	1.2	5.3	37.6	46.5	78.3	(D)
3523B	Other commercial turf and grounds care equipment:										
	Establishments with this product class primary	13	.6	6.2	.4	.8	4.4	14.1	13.0	25.4	.5
	Establishments with 75 percent specialization or more	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3524	Lawn and garden equipment:										
	Entire industry	154	19.5	222.4	14.6	27.5	141.3	631.7	939.1	1,569.5	28.5
	Establishments with 75 percent specialization or more	136	16.2	187.8	12.2	23.0	119.9	529.7	865.4	1,392.7	23.1
35241	Consumer nonriding lawn and garden equipment:										
	Establishments with this product class primary	65	10.1	97.6	8.1	15.3	65.7	335.6	525.0	858.1	12.6
	Establishments with 75 percent specialization or more	49	5.4	52.6	4.1	7.5	30.9	182.5	317.7	501.4	6.0
35243	Parts for consumer nonriding lawn; garden equipment:										
	Establishments with this product class primary	10	1.2	12.9	.8	1.5	7.0	33.3	29.5	62.7	1.0
	Establishments with 75 percent specialization or more	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35244	Consumer riding lawn and garden equipment:										
	Establishments with this product class primary	17	5.4	77.4	3.6	6.5	46.6	197.5	309.1	509.4	9.5
	Establishments with 75 percent specialization or more	9	.4	4.9	.2	.4	2.5	17.3	23.3	40.3	.4
35245	Parts for consumer riding, lawn, garden equipment:										
	Establishments with this product class primary	14	2.5	30.5	1.8	3.7	19.5	55.7	60.8	115.5	4.9
	Establishments with 75 percent specialization or more	7	1.2	15.1	.9	1.8	10.6	27.7	34.8	62.0	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. Extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3511	Turbines and turbine generator sets.....1977..	2,733.7	2,314.1	213.6	206.0	92	2,813.1	2,314.1	499.0	82
	1972..	2,189.0	1,877.1	170.6	141.3	92	2,079.7	1,877.1	202.6	90
	1967..	1,043.2	829.9	168.6	44.7	83	1,059.3	829.9	229.4	78
3519	Internal combustion engines, n.e.c.....1977..	7,696.5	6,658.8	645.3	392.4	91	7,548.0	6,658.8	889.2	88
	1972..	3,318.4	2,864.2	270.3	183.9	91	3,353.4	2,864.2	489.2	85
	1967..	2,093.2	1,813.4	213.0	66.8	89	2,187.6	1,813.4	374.2	83
3523	Farm machinery and equipment.....1977..	10,281.7	9,082.8	808.3	390.6	92	9,548.9	9,082.8	466.1	95
	1972..	4,531.4	3,907.9	430.0	193.5	90	4,143.5	3,907.9	235.6	94
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3524	Lawn and garden equipment.....1977..	1,569.5	1,427.5	116.2	25.8	92	1,747.2	1,427.5	319.7	82
	1972..	1,059.1	931.9	105.9	21.3	90	1,143.4	931.9	211.5	82
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

n.e.c. Not elsewhere classified.

[1] Data are not available because industry was created in 1972.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. This table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of the industries included in this chapter are shown. Read across to determine where the products of the industries in this chapter are produced. To the extent that some of the primary products are made in industries not included in this chapter, the value of such shipments is shown in the "All other industries" column. The specified "All other industries" are listed at the end of the table if they account for more than $5 million of the products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry, product class, and miscellaneous receipts	All industries	Turbines and turbine generator sets (SIC 3511)	Internal combustion engines, n.e.c. (SIC 3519)	Farm machinery and equipment (SIC 3523)	Lawn and garden equipment (SIC 3524)	All other industries
	Total	(X)	2,733.7	7,696.5	10,281.7	1,569.5	(X)
	Primary products	(X)	2,314.1	6,658.8	9,082.8	1,427.5	(X)
	Secondary products	(X)	213.6	645.3	808.3	116.2	(X)
	Miscellaneous receipts	(X)	206.0	392.4	390.6	25.8	(X)
3511	Turbines and turbine generator sets	2,813.1	2,314.1	(D)	-	-	(D)
35111	Steam, gas, and hydraulic turbine generator sets	1,369.2	1,281.9	-	-	-	87.3
35112	Steam, gas, and hydraulic turbines and parts	1,415.4	1,004.9	(D)	-	-	(D)
35110	Turbines and turbine generator sets, n.s.k	28.5	27.2	-	-	-	1.3
3519	Internal combustion engines, n.e.c	7,548.0	-	6,658.8	(D)	(D)	(D)
35191	Gasoline engines under 11 horsepower	892.9	-	780.4	(D)	(D)	(D)
35192	Gasoline engines, 11 horsepower and over						
35193	Diesel, semidiesel, dual fuel engine, exc. auto	1,587.4	-	1,235.3	-	-	352.2
35194	Diesel, semidiesel, dual fuel engine, automotive	1,322.2	-	1,291.9	-	-	30.3
35195	Outboard engines	(1)	-	(1)	-	-	(1)
35196	Gas engines, except turbines	31.9	-	28.4	-	-	3.5
35197	Tank and converted internal combustion engines	1813.7	-	1807.5	-	-	16.3
35199	Parts for internal combustion engines	2,846.9	-	2,465.9	(D)	(D)	(D)
35190	Internal combustion engines, n.s.k	52.9	-	49.4	-	-	3.4
3523	Farm machinery and equipment	9,548.9	-	-	9,082.8	38.8	427.3
35231	Wheel tractors and attachments	2,637.0	-	-	2,525.6	-	111.4
35232	Dairy equipment, sprayers, elevators, blowers	306.4	-	-	272.1	(D)	(D)
35233	Planting, seeding, and fertilizing machinery	466.5	-	-	463.6	(D)	(D)
35234	Harrows, rollers, pulverizers, stalk cutters	392.2	-	-	366.4	(D)	(D)
35235	Harvesting machinery, except for hay and straw	1,463.3	-	-	1,457.5	-	5.8
35236	Haying machinery	414.9	-	-	397.8	-	17.0
35237	Plows	199.0	-	-	194.7	(D)	(D)
35238	Farm machinery and equipment, n.e.c	1,228.0	-	-	1,155.5	1.2	71.3
35239	Parts for farm machinery and equipment	1,609.5	-	-	1,464.8	(D)	(D)
3523A	Commercial turf and grounds mowing equipment	107.4	-	-	(D)	(D)	(D)
3523B	Other commercial turf and grounds care equipment	172.9	-	-	150.8	13.7	8.4
35230	Farm machinery and equipment, n.s.k	551.8	-	-	(D)	(D)	(D)
3524	Lawn and garden equipment	1,747.2	-	(D)	96.7	1,427.5	(D)
35241	Consumer nonriding lawn and garden equipment	841.2	-	(D)	4.4	717.6	(D)
35243	Parts for consumer nonriding lawn and garden equipment	103.2	-	-	(D)	93.3	(D)
35244	Consumer riding lawn and garden equipment	577.4	-	-	(D)	418.4	(D)
35245	Parts for consumer riding lawn and garden equipment	199.3	-	-	10.7	175.4	13.2
35240	Lawn and garden equipment, n.s.k	26.1	-	(D)	(D)	22.8	2.5
	Other shipments by 4-digit product group:						
2653	Corrugated and solid fiber boxes	(X)	-	-	-	(D)	-
3079	Miscellaneous plastics products	(X)	-	(D)	(D)	(D)	-
3317	Steel pipe and tubes	(X)	-	-	(D)	-	-
3321	Gray iron foundries	(X)	-	(D)	(D)	(D)	-
3322	Malleable iron foundries	(X)	-	(D)	-	-	-
3361	Aluminum foundries	(X)	-	(D)	-	-	-
3425	Hand saws and saw blades	(X)	-	-	-	(D)	-
3429	Hardware, n.e.c	(X)	-	-	(D)	-	-
3433	Heating equipment, except electrical	(X)	(D)	-	10.6	-	-
3442	Metal doors, sash, and trim	(X)	-	-	(D)	-	-
3443	Fabricated plate work (boiler shops)	(X)	57.0	(D)	(D)	-	-
3444	Sheet metal work	(D)	-	-	29.2	.6	-
3448	Fabricated metal buildings	(X)	-	-	2.4	-	-
3451	Screw machine products	(X)	-	(D)	-	-	-
3452	Bolts, nuts, rivets, and washers	(X)	-	-	(D)	-	-
3462	Iron and steel forgings	(X)	-	-	(D)	-	-
3469	Metal stampings, n.e.c	(X)	-	(D)	4.2	1.6	-
3494	Valves and pipe fittings	(X)	(D)	(D)	(D)	-	-
3495	Wire springs	(X)	-	-	(D)	(D)	-
3498	Fabricated pipe and pipe fittings	(X)	-	(D)	-	-	-
3499	Fabricated metal products, n.e.c	(X)	-	-	.8	(D)	-
3531	Construction machinery	(X)	-	-	269.8	(D)	-
3536	Hoists, cranes, and monorails	(X)	-	-	(D)	-	-
3537	Industrial trucks and tractors	(X)	-	-	6.8	(D)	-
3545	Machine tool accessories	(X)	-	(D)	-	(D)	-

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. This table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of the industries included in this chapter are shown. Read across to determine where the products of the industries in this chapter are produced. To the extent that some of the primary products are made in industries not included in this chapter, the value of such shipments is shown in the "All other industries" column. The specified "All other industries" are listed at the end of the table if they account for more than $5 million of the products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry, product class, and miscellaneous receipts	All industries	Turbines and turbine generator sets (SIC 3511)	Internal combustion engines, n.e.c. (SIC 3519)	Farm machinery and equipment (SIC 3523)	Lawn and garden equipment (SIC 3524)	All other industries
	Other product shipments by 4-digit product group--Con.						
3546	Power driven hand tools	(X)	-	(D)	-	(D)	-
3551	Food products machinery	(X)	-	-	9.5	(D)	-
3559	Special industry machinery, n.e.c.	(X)	(D)	(D)	5.6	-	-
3561	Pumps and pumping equipment	(X)	(D)	5.7	9.1	-	-
3563	Air and gas compressors	(X)	(D)	(D)	(D)	(D)	-
3564	Blowers and fans	(X)	(D)	-	1.3	-	-
3566	Speed changers drives and gears	(X)	(D)	(D)	(D)	-	-
3569	General industrial machinery, n.e.c.	(X)	-	(D)	(D)	-	-
3585	Refrigeration and heating equipment	(X)	-	(D)	(D)	(D)	-
3621	Motors and generators	(X)	(D)	330.0	(D)	-	-
3634	Electric housewares and fans	(X)	-	-	(D)	(D)	-
3644	Noncurrent-carrying wiring devices	(X)	-	-	(D)	-	-
3648	Lighting equipment	(X)	-	-	(D)	-	-
3714	Motor vehicle parts and accessories	(X)	(D)	(D)	16.6	(D)	-
3715	Truck trailers	(X)	-	-	(D)	-	-
3724	Aircraft engines and engine parts	(X)	(D)	5.3	-	-	-
3728	Aircraft equipment, n.e.c.	(X)	(D)	(D)	(D)	-	-
3732	Boat building and repairing	(X)	-	-	(D)	-	-
3743	Railroad equipment	(X)	-	(D)	-	-	-
3751	Motorcycles, bicycles, and parts	(X)	-	(D)	-	-	-
3799	Transportation equipment, n.e.c.	(X)	-	(D)	3.2	(D)	-
	Miscellaneous receipts:						
93000 00	Contract work	(X)	(D)	28.3	9.7	2.6	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	11.8	7.9	1.3	(X)
99980 31	Receipts for installation or construction	(X)	41.8	(D)	.3	-	(X)
99980 41	Receipts for research and developmental work	(X)	10.6	(D)	.1	-	(X)
99980 61	Receipts for repair work	(X)	87.9	25.1	1.0	-	(X)
99980 98	Other miscellaneous receipts	(X)	16.7	24.0	25.9	1.8	(X)
99989 00	Resales	(X)	42.4	298.2	345.7	20.1	(X)

1977 product code	Industry, product class, and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3511	3443 Fabricated platework (boiler shops)	(D)
	3489 Ordnance and accessories, n.e.c.	(D)
	3563 Air and gas compressors	(D)
	3621 Motors and generators	(D)
	3724 Aircraft engines and engine parts	309.1
	3728 Aircraft equipment, n.e.c.	6.7
3519	3531 Construction machinery	(D)
	3536 Hoists, cranes, and monorails	(D)
	3544 Special dies, tools, jigs, etc	(D)
	3545 Machine tool accessories	(D)
	3546 Power driven handtools	6.6
	3561 Pumps and pumping equipment	9.7
	3563 Air and gas compressors	56.9
	3621 Motor and generators	(D)
	3678 Electronic connectors	(D)
	3714 Motor vehicle parts and accessories	223.7
	3724 Aircraft engines and engine parts	(D)
	3743 Railroad equipment	(D)

1977 product code	Industry, product class, and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3523	2048 Prepared feeds, n.e.c.	(D)
	3312 Blast furnaces and steel mills	(D)
	3321 Gray iron foundries	(D)
	3444 Sheet metalwork	(D)
	3462 Iron and steel forgings	(D)
	3493 Steel springs, except wire	(D)
	3499 Fabricated metal products, n.e.c.	(D)
	3531 Construction machinery	179.4
	3551 Food product machinery	5.5
	3561 Pumps and pumping equipment	(D)
	3564 Blowers and fans	(D)
	3634 Electric housewares and fans	(D)
	3714 Motor vehicle parts and accessories	41.1
3524	3465 Automotive stampings	(D)
	3546 Power driven handtools	(D)
	3751 Motorcycles, bicycles, and parts	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Product classes 35195, and 35197 are combined to avoid disclosing operations of individual companies.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Product shipments[1]			Product shipments		
				Quantity[2]	Capacity	Value (million dollars)	Quantity	Capacity	Value (million dollars)
	TURBINES AND TURBINE GENERATOR SETS				Generating capacity (1,000 kW)			Generating capacity (1,000 kW)	
3511- --	Total	.....	(NA)	(X)	(X)	2,813.1	(NA)	(X)	2,079.7
35111 --	Steam, gas, and hydraulic turbine generator set units and parts	.....	(NA)	(X)	(X)	1,369.2	(NA)	(X)	1,521.6
35111 01	Steam turbine generator sets	Number	3						
35111 41	Hydraulic turbine generator sets (all sizes)	Number	1						
35111 50	Gas turbine generator sets: As reported in census of manufactures	.....	6						
	As reported in Current Industrial Reports MA-36H, Motors and Generators[3]	.....	(X)	(X)	(X)	1,355.6	(X)	(X)	1,521.6
35111 51	Parts for generator set units, steam, gas, and hydraulic, including complete generators designed for turbine drive	.....	9						
35111 00	Steam, gas, and hydraulic turbine generator set units and parts, n.s.k.	.....	(NA)	(X)	(X)	13.6			
					capacity (1,000 hp)			capacity (1,000 hp)	
35112 --	Steam, gas, and hydraulic turbines and parts	.....	(NA)	(X)	(X)	1,415.4	(X)	(X)	541.5
	Mechanical drive steam turbines and gear turbines, including the value of the gears:								
35112 03	Marine and Navy	Number	4	113	865.2	71.1	118	870.7	58.1
	Number shipped by horsepower capacity (rated or normal):								
35112 01	Under 1,000 horsepower		(NA)	[4]	(X)	(X)	68	(X)	(X)
35112 08	1,000 to 9,999 horsepower		(NA)	65	(X)	(X)			
35112 09	10,000 horsepower and over		(NA)	[4]48	(X)	(X)	50	(X)	(X)
35112 13	Land		8	2,618	(S)	352.1	3,488	2,878.8	79.5
	Number shipped by horsepower capacity (rated or normal):								
35112 15	Under 50 horsepower		(NA)	815	(X)	(X)	1,159	(X)	(X)
35112 16	50 to 499 horsepower		(NA)	1,366	(X)	(X)	413	(X)	(X)
35112 17	500 to 999 horsepower		(NA)	226	(X)	(X)	1,717	(X)	(X)
35112 18	1,000 to 9,999 horsepower		(NA)	156	(X)	(X)	123	(X)	(X)
35112 19	10,000 horsepower and over		(NA)	55	(X)	(X)	76	(X)	(X)
35112 61	Hydraulic turbines (all sizes)	Number	2	(D)	(D)	(D)	(D)	(D)	(D)
35112 71	Parts and accessories for hydraulic turbines	.....	3	(X)	(X)	(D)	(X)	(X)	5.8
35112 72	Parts and accessories for steam engines and steam turbines, including complete steam engines	.....	10	(X)	(X)	(D)	(X)	(X)	49.8
	Gas turbines, except aircraft:								
35112 75	Under 10,000 horsepower	Number	4	2,315	(S)	228.7	(D)	(D)	(D)
35112 77	10,000 horsepower and over	Number	3	(S)	(S)	195.4	81	(S)	147.4
35112 81	Parts and accessories for gas turbines, except aircraft	.....	9	(X)	(X)	297.0	(X)	(X)	44.6
35112 00	Steam, gas, and hydraulic turbines and parts, n.s.k.	.....	(NA)	(X)	(X)	12.0	(NA)	(X)	15.7
35110 00	Turbines and turbine generator sets, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	13.8	(NA)	(X)	14.3
35110 02	Turbines and turbine generator sets, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	14.7	(NA)	(X)	2.3

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	INTERNAL COMBUSTION ENGINES, N.E.C.						
3519- --	Total	.....	(NA)	(X)	7,548.0	(X)	3,353.4
35191 --	Gasoline engines, under 11 horsepower, except outboard, aircraft, automobile, truck, bus, and tank:[5]						
	As reported in the census of manufactures	.....	16	(X)	[5] 892.9	(X)	[5] [6] 490.8
	As reported in Current Industrial Reports MA-35L, Internal Combustion Engines[7]	Thousands	(NA)	[6] 10,967.9	[6] 888.4	[6] 9,740.8	[6] 527.9
35191 01-05	Under 6.0 horsepower	↑	(NA)	[6] 10,967.9	[6] 888.4	[6] 9,740.8	[6] 527.9
35191 06-11	6.0 to 10.9 horsepower	Thousands ↓	(NA)				
35192 --	Gasoline engines, 11 horsepower and over, except outboard, aircraft, automobile, truck, bus, and tank:[5]						
	As reported in the census of manufactures	.....	18	(X)	([6])	(X)	([6])
	As reported in Current Industrial Reports MA-35L, Internal Combustion Engines[7]	Thousands	(NA)	([6])	([6])	([6])	([6])
35192 01-17	11 to 50 horsepower	↑	(NA)	([6])	([6])	([6])	([6])
35192 19-35	51 horsepower and over	Thousands ↓	(NA)				
35193 --	Diesel, semidiesel, and dual fuel engines, except automotive:[5] [8]						
	As reported in the census of manufactures	.....	23	(X)	[5] [8] 1,587.4	(X)	[5] [8] 604.0
	As reported in Current Industrial Reports MA-35L, Internal Combustion Engines[7]	Thousands	(NA)	315.1	1,523.5	181.2	600.3
35193 01-15	Under 151 horsepower	↑	(NA)	163.6	397.0	100.5	156.0
35193 17	151 to 200 horsepower		(NA)			80.7	444.2
35193 19-43	201 horsepower and over	Thousands ↓	(NA)	151.6	1,126.5		
35194 --	Diesel, semidiesel, and dual fuel engines (automotive):[5]						
	As reported in the census of manufactures	.....	11	(X)	[5] 1,322.2	(X)	[5] 634.6
	As reported in Current Industrial Reports MA-35L, Internal Combustion Engines[7]	Thousands	(NA)	221.0	1,239.2	180.0	632.3
35194 01	Under 151 horsepower	↑	(NA)	16.9	55.5	8.8	17.1
35194 03	151 to 200 horsepower		(NA)	28.6	106.9	23.1	48.4
35194 05	201 to 225 horsepower		(NA)	25.6	135.9	148.0	566.9
35194 07	226 to 250 horsepower		(NA)	16.4	83.6		
35194 09	251 to 275 horsepower		(NA)	133.5	857.3		
35194 11	276 horsepower and over	Thousands ↓	(NA)				
35196 --	Gas engines, except turbines:[5]						
	As reported in the census of manufactures	.....	6	(X)	[5] 31.9	(X)	[5] 35.2
	As reported in Current Industrial Reports MA-35L, Internal Combustion Engines[7]	Thousands	(NA)	(D)	30.0	9.1	36.3
35196 01	Under 51 horsepower	↑	(NA)	(D)	10.5	5.8	5.0
35196 03	51 to 150 horsepower		(NA)			2.8	12.0
35196 05	151 to 500 horsepower		(NA)			.6	19.3
35196 07	501 horsepower and over	Thousands ↓	(NA)	(D)	19.5		
35195 --	Outboard engines	.....	[6]	(X)	813.7	(X)	425.9
35197 --	Tank and converted internal combustion engines[9]	.....	17				
35199 --	Parts and accessories for internal combustion engines, except aircraft, gasoline, automotive, and gas turbines	.....	(NA)	(X)	2,846.9	(X)	1,144.9
35199 16	Fuel injection systems, engine	.....	9	(X)	745.2		
35199 17	Governors, engine	.....	[6]	(X)	57.3	(X)	1,144.9
35199 18	Radiators, stationary engine	.....	5				
35199 19	Other parts and accessories	.....	92	(X)	2,025.8		
35199 00	Parts and accessories for internal combustion engines, except aircraft, gasoline, automotive, and gas turbines, n.s.k.	.....	(NA)	(X)	18.7		
35190 00	Internal combustion engines, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	29.9	(X)	13.2
35190 02	Internal combustion engines, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	23.0	(X)	4.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	FARM MACHINERY AND EQUIPMENT						
3523- --	Total	.....	(X)	(X)	9,548.9	(X)	4,143.5
35231 --	Wheel tractors and attachments, except contractors' off-highway type, lawn and garden tractors, and motor tillers:[10]						
	As reported in the census of manufactures	.....	22	(X)	2,637.0	(X)	1,215.2
	As reported in Current Industrial Reports M-35S, Tractors, Except Garden Tractors	.....	(X)	(X)	2,574.4	(X)	1,171.8
	Wheel tractors, farm type (power-take-off horsepower):						
	2-wheel drive, including front-wheel assist types:						
35231 01	Under 60 PTO horsepower	Number	(X)	50,827	368.9	(11)	(11)
35231 03	60 to 79 PTO horsepower		(X)				
35231 05	80 to 99 PTO horsepower		(X)	16,544	185.2		
35231 07	100 to 119 PTO horsepower		(X)	20,104	292.6		
35231 09	120 to 139 PTO horsepower		(X)	41,765	639.7		
35231 11	140 to 159 PTO horsepower		(X)	18,593	362.9		
35231 13	160 to 179 PTO horsepower		(X)	5,556	116.8		
35231 15	180 PTO horsepower and over		(X)	3,520	84.1		
	4-wheel drive, including tractors with equal size tires, front and rear:						
35231 31	Under 200 PTO horsepower		(X)	4,164	113.8	(11)	(11)
35231 33	200 to 249 PTO horsepower		(X)	4,879	154.3		
35231 35	250 PTO horsepower and over		(X)	2,936	105.8		
	Wheel tractors, nonfarm (industrial type), excluding tractor chassis shipped as a part of front engine mount, integral design tractor shovel loader/backhoes (NEHP):						
35231 56	Under 50 net engine horsepower		(X)	7,116	41.9	11 67,504	11 205.4
35231 58	50 to 59 net engine horsepower		(X)	6,521	44.9	11 26,615	11 118.1
35231 60	60 to 69 net engine horsepower		(X)	3,626	28.7	11 18,402	11 93.3
35231 62	70 to 79 net engine horsepower		(X)			11 5,159	11 34.1
35231 64	80 to 99 net engine horsepower		(X)			11 26,446	11 187.9
35231 66	100 net engine horsepower and over	Number	(X)			11 54,662	11 502.2
35231 87	Attachments for wheel tractors, farm type and nonfarm (industrial type), excluding attachments for tractor chassis shipped as part of front engine design tractor shovel loader/backhoes (NEHP)	.....	(X)	(X)	34.8	(X)	30.8
35232 --	Farm dairy machines, sprayers and dusters, farm elevators, and farm blowers:						
	As reported in the census of manufactures	.....	95	(X)	306.4	(X)	157.8
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	315.4	(X)	12 152.5
	Farm dairy machines	.....	(X)	(X)	73.2	(X)	47.0
	Mechanical installations:						
35232 03	Vacuum pumping outfits for milking machines with or without motors and/or reserve tanks	Number	(X)	10,704	8.1	14,043	5.6
35232 04	Milking machines, complete (suspended and floor type bucket, single and double units)		(X)	2,216	.3	6,173	.7
35232 08	Pipeline milking units, complete, including claws, shells, inflations, air tubes, with or without pulsator	Number	(X)	58,926	17.6	51,706	14.5
35232 15	Other farm dairy machines and equipment	.....	(X)	(X)	47.1	(X)	9.0
35232 16	Attachments	.....	(X)			(X)	17.2
	Sprayers and dusters	.....	(X)	(X)	130.3	(X)	53.9
	Power sprayers, field and row crop types only:						
35232 18	Self-propelled	Number	(X)	2,941	34.6	1,906	5.2
	Tractor mounted:						
35232 20	Piston pump type, all types of mounted tank		(X)	5,614	3.5	3,448	1.1
	Nonpiston pump type:						
35232 22	Rear-mounted tank		(X)	6,597	3.0	8,972	3.0
35232 23	Other than rear-mounted tank		(X)	5,017	2.3	7,622	2.0
	Other than tractor mounted:						
	Piston pump type:						
	Power-take-off driven:						
35232 24	Over 4 and under 11 gallons per minute		(X)	1,138	1.2	719	1.0
35232 25	11 gallons per minute and over		(X)	655	1.6		
	Engine driven:						
35232 26	Over 4 and under 11 gallons per minute		(X)	1,714	2.1	1,002	.6
35232 27	11 gallons per minute and over		(X)	742	1.8	72	.2
35232 28	Nonpiston pump type		(X)	7,108	3.4	1,563	.9
35232 29	Other power sprayers, over 4 gallons per minute		(X)	2,141	1.6	(X)	(13)
	Power sprayers, other than field and row crop types (over 4 gallons per minute):						
35232 31	Power-take-off driven		(X)	2,026	2.8	1,353	.4
35232 32	Engine driven		(X)	3,357	3.6	1,342	2.2
	Power sprayers, air-carried type (field, row crop, and orchard types):						
35232 33	Complete units		(X)	7,662	10.8	7,994	7.4
35232 34	Attachment type	Number	(X)			91	(Z)

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3523- --	FARM MACHINERY AND EQUIPMENT--Con.						
35232 --	Farm dairy machines, sprayers and dusters, farm elevators, and farm blowers--Con.						
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment--Con.						
	Sprayers and dusters--Con.						
	Foggers and mist sprayers, portable:						
35232 35	Foggers (thermal), under 16 gallons-per-hour output	Number	(X)	111,213	5.1	14,073	.9
35232 36	Mist sprayers (nonthermal), under 16 gallons-per-hour output		(X)			45,769	1.9
	Hand-pulled and garden type, 4 gallons-per-minute output and under:						
35232 37	16-gallon tank capacity and under		(X)	4,135	.8	(X)	([13])
35232 38	Over 16-gallon tank capacity		(X)	3,235	.8		
	Hand sprayers, agricultural:						
35232 39	Under 1 gallon		(X)	2,278,795	2.4	3,195,539	2.2
	1 gallon and over:						
35232 41	Compressed air or gas		(X)	2,719,833	31.6	1,787,382	13.7
35232 42	Knapsack (liquid pump)		(X)	28,684	1.2	37,609	.8
35232 43	Hose-end and flame sprayers		(X)	1,184,587	2.7	1,149,223	2.1
35232 48	Sprayer pumps (bucket, barrel, slide, etc.)		(X)	49,086	.4	(X)	([13])
35232 52	Power dusters, all types		(X)	875	1.3	1,565	.3
	Hand dusters:						
35232 53	Crank or knapsack		(X)	372,038	1.1	(S)	.5
35232 54	Plunger		(X)				
35232 55	Other	Number	(X)				
35232 56	All other sprayers	.....	(X)	(X)	8.0	(X)	[13]6.1
35232 57	Attachments for sprayers and dusters	.....	(X)	(X)	2.6	(X)	1.2
	Farm elevator and blowers	.....	(X)	(X)	111.9	(X)	[12]51.6
	Farm elevators, portable:						
35232 60	Single chain	Number	(X)	5,004	1.8	13,741	2.5
35232 63	Double chain		(X)	7,174	7.2	14,748	7.1
	Auger type:						
35232 64	Under 6-inch diameter		(X)	40,668	4.8	40,620	2.1
35232 65	6-inch diameter		(X)	73,628	20.1	56,019	7.9
35232 66	Over 6-inch diameter		(X)	58,382	28.5	34,386	8.8
35232 73	Other farm elevators, including stationary		(X)	10,270	19.4	16,863	19.3
35232 74	Other farm blowers, including forage blowers, and combination grain and forage blowers	Number	(X)	10,348	15.3		
35232 75	Attachments for farm elevators and blowers	.....	(X)	(X)	14.9	(X)	[12]3.9
35233 --	Planting, seeding, and fertilizing machinery:						
	As reported in the census of manufactures	.....	100	(X)	466.5	(X)	172.0
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	479.4	(X)	166.7
	Corn planters, corn and cotton planters, and lister planters (number of rows):						
	Pull type:						
35233 16	Under 6 rows	Number	(X)	183,089	140.0	34,224	27.2
35233 18	6 rows and over		(X)				
35233 22	Mounted planters, total rows mounted		(X)				
35233 40	Transplanters, pull type or mounted and broadcast seeders, end-gate mounted and drawn		(X)	30,250	8.5		
	Fertilizer distributors, pull type or mounted:						
	Dry, including lime spreaders:						
35233 50	Gravity distribution (5 feet and over)		(X)	2,898	3.6	5,861	2.2
	Centrifugal distribution:						
35233 55	Pull type		(X)	5,765	16.5	5,747	9.3
35233 56	Mounted		(X)	2,783	10.5	1,643	3.6
35233 52	Liquid		(X)	6,619	20.6	5,714	6.4
35233 54	Anhydrous ammonia		(X)	6,562	13.0	7,320	7.5
35233 57	Manure spreaders, conveyor type		(X)	16,688	33.4	[14]21,233	[14]21.6
35233 65	Manure spreaders, tank type, open and closed		(X)	7,853	23.0	7,728	17.3
35233 69	Manure pumps, liquid		(X)	1,093	2.6	([14])	([14])
35233 70	Front and rear mounted loaders (farm type), manure and general utility	Number	(X)	27,661	41.4	21,100	16.8
35233 77	Row crop unit planters	No. of rows	(X)	41,424	13.5	45,600	9.3
35233 82	Other planting, seeding, and fertilizing machinery	.....	(X)	(X)	107.9	(X)	[14]28.1
35233 84	Attachments	.....	(X)	(X)	45.0	(X)	17.4

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3523- --	FARM MACHINERY AND EQUIPMENT--Con.						
35234 --	Harrows, rollers, pulverizers, stalk cutters, and similar equipment:						
	As reported in the census of manufactures	.....	95	(X)	392.2	(X)	191.8
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	406.4	(X)	172.9
35234 03	Spike-tooth, spring-tooth, and tine-tooth harrow sections	Number	(X)	103,260	12.5	90,797	7.2
	Disc harrows:						
35234 13	Single (2-gang)		(X)	3,110	1.0	4,578	1.5
	Tandem:						
35234 14	Pull type		(X)	53,104	167.1	53,802	52.7
35234 09	Mounted		(X)	29,221	12.1	22,458	5.8
35234 23	Offset, all		(X)	11,215	39.2	11,030	18.4
35234 15	Combination rollers and harrow mulchers		(X)	8,619	17.4	10,130	6.0
	Stalk shredders and cutters or rotary mowers (power-take-off):						
	Flail type (without spout):						
35234 16	Under 90-inch cutting width		(X)	10,139	4.4	14,255	4.3
35234 17	90-inch cutting width and over		(X)	2,270	5.3	2,719	3.4
	Horizontal blade type:						
35234 18	66-inch cutting width and under		(X)	53,245	25.4	67,884	20.8
35234 19	Over 66-inch up to 100-inch cutting width		(X)	20,018	16.5	23,954	12.5
35234 20	Over 100-inch cutting width		(X)	6,690	16.3	4,292	6.4
	Blade terracers or scrapers (farm size):						
35234 29	Rear mounted blade type		(X)	69,867	9.5	69,951	4.9
35234 21	Other, including wheel type		(X)	24,031	13.6	32,711	8.0
35234 24	Land levelers	Number	(X)	5,389	10.8	5,464	3.1
35234 25	Other harrows, rollers, and packers	.....	(X)	80,808	38.5	(X)	9.5
35234 27	Attachments	.....	(X)	(X)	16.8	(X)	8.3
35235 --	Harvesting machinery, except hay and straw harvesting:						
	As reported in the census of manufactures	.....	85	(X)	1,463.3	(X)	580.4
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	1,428.4	(X)	543.6
35235 11	Combines (harvester-threshers), except peanut combines	Number	(X)	31,943	720.7	21,172	220.6
35235 21	Grain heads for combines, all sizes		(X)	45,892	95.8	38,052	26.3
35235 31	Corn heads, all sizes		(X)	24,035	126.8	20,642	64.4
35235 32	Windrowers or swathers (draper type for grain)		(X)	601	2.3	984	3.5
35235 42	Corn pickers		(X)	(15)	(15)	7,577	18.3
35235 53	Potato harvesters		(X)	1,005	14.1	628	6.8
35235 56	Beet harvesters, all row sizes		(X)	556	5.8	792	4.4
35235 57	Peanut diggers, shakers, and windrowers		(X)	2,517	4.1	2,594	2.7
35235 59	Peanut combines		(X)	1,790	11.7	2,218	9.3
	Field forage harvesters:						
35235 63	Shear bar, self-propelled type and pull type (basic machines)		(X)	14,573	78.9	15,597	42.1
	Attachments for shear-bar type forage harvesters:						
35235 64	Pick-up hay units and cutter-bar hay unit		(X)	9,126	9.1	11,728	6.7
35235 65	Row-crop unit, all sizes		(X)	14,687	23.3	16,183	14.0
35235 70	Flail type (horizontal knives or vertical free-swinging knives or hammers), including discharge spouts		(X)	4,167	9.2	4,651	6.1
35235 77	Cotton strippers, all types	Number	(X)	1,816	24.5	2,266	7.3
35235 82	Other harvesting machinery, including picker-shellers, field shelling attachments for corn pickers, cotton pickers, and potato diggers	.....	(X)	15 11,801	15 191.3	(X)	77.5
35235 83	Attachments for harvesting machinery, including platform and seeder, reel, straw spreaders, load levelers, weed stripper, grate-unit knife grinders, and stalk walkers	.....	(X)	(X)	111.1	(X)	33.6
35236 --	Haying machinery:						
	As reported in the census of manufactures	.....	38	(X)	414.9	(X)	184.1
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	405.0	(X)	175.5
35236 13	Mowers, cutter-bar type, excluding combination mower-conditioners, all types	Number	(X)	13,962	7.7	16 18,346	16 6.9
35236 18	Mower-conditioners (combination type) self-propelled and pull type		(X)	27,517	101.9	21,204	43.3
35236 23	Windrowers, self-propelled with conditioner, auger and draper type		(X)	6,003	54.4	8,464	25.0
35236 31	Rakes, side delivery, cylinder type and finger wheel type		(X)	20,328	19.0	14,126	7.8
	Hay balers:						
35236 53	Hay balers, all types, bales under 200 pounds		(X)	24,876	82.6	27,989	57.1
35236	Hay balers, all types, bales 200 pounds and over		(X)	17,745	81.7		
35236 59	Hay stackers		(X)	1,037	7.8	(16)	(16)
35236 64	Bale throwing attachments for hay balers		(X)	7,237	5.1	8,161	3.4
35236 65	Hay-bale loaders (field type)		(X)	4,136	2.8	3,215	1.2
35236 82	Other haying machinery	Number	(X)	135,334	42.1	16 16,630	16 27.7
35236 83	Other attachments for haying machinery (stripper, bale chute, and knife attachments)	.....	(X)			(X)	3.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3523- --	FARM MACHINERY AND EQUIPMENT--Con.						
35237 --	Plows:						
	As reported in the census of manufactures	.....	56	(X)	199.0	(X)	85.4
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	207.8	(X)	82.4
	Moldboard plows:						
35237 32	Pull type, 1-way	Number.....	(X)	4,438	18.2	1,549	2.2
35237 37	Mounted, 1-way		(X)	15,771	7.7	17,528	6.4
	Semimounted, 1-way:						
35237 42	3-bottom and 4-bottom		(X)	7,442	16.0	7,382	6.8
35237 44	5-bottom		(X)	9,984	28.2	10,682	13.6
35237 46	6-bottom, 7-bottom, and larger		(X)	4,868	17.5	3,567	4.8
35237 45	Pull type and mounted, 2-way: 1-,2-,3-bottom, and larger		(X)	2,822	6.4	4,206	3.6
35237 50	Disc plows, 1-way, 2-way		(X)	278	.7	1,137	.6
35237 52	One-way discers (harrow plows, cylinder plows, etc.) all sizes		(X)	539	1.4	510	.5
35237 55	Subsoilers (deep tillage)		(X)	8,129	10.0	2,514	.8
35237 56	Terracing and ditching plows		(X)	2,261	1.5	2,112	.8
	Chisel plows, deep tillage (chisel/sweep type):						
35237 64	Pull type		(X)	15,084	36.2	10,043	11.7
35237 65	Mounted		(X)	15,194	16.6	8,253	5.7
35237 58	Other plows, except snow plows		(X)	1,795	5.0	853	1.2
35237 63	Middlebusters and disc bedders	Number.....	(X)	5,912	7.5	5,149	2.2
35237 61	Attachments for plows (coulters, jointers, root cutters, sub-soilers, fertilizer distributors, etc.) excluding lister planting attachments	.....	(X)	(X)	15.5	(X)	7.4
35237 62	Plowshares	1,000 lb.....	(X)	33,973	19.4	28,634	14.0
35238 --	Farm machinery and equipment, n.e.c., excluding parts but including cultivators, weeders, feed grinders, and crushers, poultry, hog, and barnyard equipment, farm wagons, self-propelled irrigation systems, etc., except commercial turf equipment:						
	As reported in the census of manufactures	.....	327	(X)	1,228.0	(X)	[17] [18] 610.8
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	1,271.7	(X)	[17] 449.3
	Cultivators and weeders	.....	(X)	(X)	182.0	(X)	58.8
	Corn and cotton type cultivators (shank and sweep type):						
	Mounted:						
35238 01	Front mounted	Number.....	(X)	([19])	([19])	[20] 19,180	[20] 9.2
	Rear mounted:						
35238 02	Under 4-row		(X)	7,728	1.7		
35238 03	4-row and 5-row		(X)	10,802	11.1		
35238 04	6-row and 7-row		(X)	10,102	15.2		
35238 05	8-row and over	Number.....	(X)	5,367	13.3		
	Rotary cultivators:						
	Ground driven:						
35238 08	Rotary hoe sections	.....	(X)				
35238 09	Rotary hoe machines	.....	(X)	16,219	20.5		
	Integrally mounted (3-point hitch type):						
35238 10	Under 4-row	Number.....	(X)			37,148	16.7
35238 11	4-row and 5-row		(X)				
35238 12	6-row and 7-row		(X)	8,637	16.4		
35238 13	8-row and over		(X)				
35238 14	Power driven		(X)	672	1.6	4,100	1.2
	Field cultivators:						
	Pull type:						
35238 16	Folding type		(X)	11,624	35.4	3,777	3.3
35238 17	Nonfolding type		(X)	5,846	11.1	6,354	4.2
35238 18	Mounted		(X)	8,992	12.5	6,635	5.1
35238 19	Tool bars, pull type or mounted	Number.....	(X)	8,639	4.6	13,510	2.0
35238 23	Other cultivators and weeders	.....	(X)	[19] 46,372	[19] 20.8	(X)	[20] 12.0
35238 22	Attachments for cultivators and weeders (front mounting frame, disc weeders, rear section, and drawbars)	.....	(X)	(X)	17.9	(X)	5.1
	Machines for preparing crops for market or for use	.....	(X)	(X)	296.9	(X)	106.0
	Feed grinders and crushers, power:						
35238 24	Hammer mills, with hammers only (farm size)	Number.....	(X)	1,330	.9	1,219	.6
35238 30	Burr mills, with grinding plates only, combination roughage mills, and roller mills (farm size)		(X)	5,178	4.4	3,872	3.1
35238 27	Feed mixers (farm size), stationary and portable		(X)	2,885	17.2	1,017	3.1
35238 29	Combination grinder-mixers, stationary and portable (farm size)		(X)	12,393	42.0	20,661	35.7
35238 33	Tobacco curers		(X)	4,315	11.1	7,404	5.3
	Driers (grain, hay, and seed):						
	Heated air crop driers:						
	Batch type:						
35238 34	Power-take-off operated		(X)	1,609	7.2	4,511	13.0
35238 35	Electric motor operated	Number.....	(X)	8,764	15.1		

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3523- --	FARM MACHINERY AND EQUIPMENT--Con.						
35238 --	Farm machinery and equipment, n.e.c., excluding parts but including cultivators, weeders, feed grinders, and crushers, poultry, hog, and barnyard equipment, farm wagons, self-propelled irrigation systems, etc., except commercial turf equipment--Con.						
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment--Con.						
	Machines for preparing crops for market or for use--Con.						
	Driers (grain, hay, and seed)--Con.						
	Heated air crop driers--Con.						
35238 36	Continuous-flow type	Number	(X)	4,362	50.7	1,520	9.4
35238 43	Heated-air units		(X)	26,692	19.5	10,966	5.6
	Crop drying fans (over 15,000 c.f.m. at approximately 1-inch pressure):						
35238 37	24-inch diameter and under		(X)	43,637	10.3	7,653	2.5
35238 38	Over 24-inch diameter	Number	(X)	2,031	1.9	319	.2
35238 40	Other machines for preparing crops for market or for use		(X)	152,510	106.2	(X)	[21]24.2
35238 41	Attachments for machines for preparing crops for market or for use		(X)	(X)	10.4	(X)	3.4
	Farm poultry equipment		(X)	(X)	120.8	(X)	59.8
	Incubators:						
35238 45	Chicken egg incubators	Egg capacity in thousands.	(X)	55,075	12.2	20,051	3.7
35238 46	All other incubators for all types of eggs except chicken, but including turkey, regardless of capacity	Egg capacity in thousands.	(X)	1,900	.8	2,558	.6
	Brooders, floor and hanging:						
35238 48	Gas (5,000 b.t.u. or more open flame, infrared and catalytic)	Number	(X)	81,248	3.0	110,466	3.4
35238 49	Other (electric, oil, coal, and wood)	Number	(X)			36,927	.1
35238 51	Brooders, battery (starting and growing)	No. of decks	(X)	6,698	.2	9.0	.2
	Nests and cages:						
35238 52	Hole and colony cages	Total linear footage.	(X)	1,606,820	3.6	421,154	.8
35238 53	Standard laying cages		(X)	5,114,886	17.1	2,186,363	4.7
35238 54	Laying cages mechanized for feeding and/or egg gathering		(X)			(S)	5.8
	Poultry feeders, except turkey feeders:						
35238 55	Trough, except mechanical	Total linear footage.	(X)	4,757,833	2.9	(S)	.8
35238 56	Hanging	Number	(X)	212,860	.6	143,818	.3
	Mechanical:						
35238 57	Floor type	Total linear footage of conveyor.	(X)	7,465,385	14.8	2,326,211	7.1
35238 59	Cage type	Total linear footage of conveyor.	(X)	26,795,492	15.7	3,025,237	4.1
	Poultry waterers, except turkey waterers:						
35238 62	Trough (chicken type) and automatic fountains	Number	(X)	782,144	3.3	(S)	4.3
35238 63	All other waterers		(X)	9,443,251	5.1	(S)	2.4
35238 64	Turkey waterers		(X)	76,549	.2	34,403	.1
35238 66	Egg washers		(X)	380	4.2	262	1.6
35238 65	Egg graders, mechanized		(X)	(X)	34.0	117	.4
35238 69	Other farm poultry equipment	Number	(X)			(X)	18.0
35238 68	Attachments for farm poultry equipment		(X)	(X)	2.9	(X)	1.3
	Other barn and barnyard equipment		(X)	(X)	167.8	(X)	101.0
	Cattle and dairy barn equipment:						
	Feeding equipment:						
	Silo unloaders, forage and grain:						
	Tower unloaders, including sealed storage:						
35238 71	Top discharge	Number	(X)	21,045	34.9	18,353	26.2
35238 72	Bottom discharge with chain conveyor		(X)	4,854	18.0		
35238 73	Bottom discharge with auger conveyor		(X)			2,555	2.8
35238 75	Electric-powered bunk feeders		(X)	11,394	14.3	12,756	10.1
35238 76	Calf feeder, hopper type		(X)	6,364	1.1	35,687	4.2
35238 77	Cattle feeder, hopper type		(X)	6,817	2.3	10,568	2.2
35238 86	Liquid feeder tanks, self-feeder type		(X)	9,424	1.2	(X)	[22]
	Handling equipment:						
35238 70	Dairy, barn, and gutter cleaners		(X)	9,445	24.7	7,215	10.5
35238 78	Dairy cattle stall for use with stanchions		(X)	32,877	1.7	46,353	1.2
35238 79	Chain tie stalls, all types		(X)	49,039	2.2	51,473	1.1
35238 80	Dairy free stalls for loose housing barns, new	Number	(X)	77,447	1.6	129,964	1.3
35238 82	Pens	Feet	(X)	205,129	1.4	199,997	1.0
35238 83	Milking parlor stalls (tandem, abreast type)	Number	(X)	17,854	4.9	32,198	4.7
35238 84	Stanchions, swing type (shipped separately and with stalls)	Number	(X)	83,331	1.2	68,037	.7

See footnotes at end of table.

Table 6a. **Products and Product Clases — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3523- --	FARM MACHINERY AND EQUIPMENT--Con.						
35238 --	Farm machinery and equipment, n.e.c., excluding parts but including cultivators, weeders, feed grinders, and crushers, poultry, hog, and barnyard equipment, farm wagons, self-propelled irrigation systems, etc., except commercial turf equipment--Con.						
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment--Con.						
	Other barn and barnyard equipment--Con.						
	Cattle and dairy barn equipment--Con.						
	Water equipment:						
35238 85	Combination cattle and hog waterer, heated (pressure type)	Number	(X)	21,924	2.4	16,349	1.5
35238 81	Cattle waterer, heated (pressure type)		(X)	29,965	3.3	43,587	3.2
35238 87	Dairy cattle water bowls, inside		(X)	220,001	2.4	227,705	1.7
35238 88	Stock watering tanks		(X)	216,998	10.9	228,397	7.3
35238 89	Livestock water heaters	Number	(X)	61,880	1.9	68,038	1.8
35238 61	Windmill heads and windmill towers		(X)	(X)	35.6	(X)	([17])
35238 91	Other barn and barnyard equipment					(X)	[22]19.1
35238 92	Attachments for barn and barnyard equipment		(X)	(X)	2.0	(X)	.5
	Self-propelled irrigation systems		(X)	(X)	268.9	(X)	[17]44.3
35238 93	Center-pivot system	Ten-tower equivalents.	(X)	11,601	259.7	(X)	[17]37.4
35238 95	All other systems using 100-feet flexible hose feeder line and over	Number	(X)	6,989	39.6	(X)	[17]6.9
	Hog equipment		(X)	(X)	52.9	(X)	25.3
	Feeding equipment:						
35230 11	Wet or dry power units	Number	(X)	7,445	1.3	(X)	([23])
35230 13	Pig feeders, over 100-lbs. live weight		(X)	416,046	3.1	348,331	1.6
	Hog feeders, over 100-lbs. live weight:						
35230 15	4 feed openings or less, except rotary		(X)	69,066	2.4	76,312	.6
35230 17	Over 4 feed openings, except rotary		(X)	110,913	12.9	107,089	10.1
35230 19	All rotary feeders (no doors or trough dividers)		(X)	38,326	2.9	29,910	1.0
	Handling equipment:						
35230 21	Hog farrowing crate and stall	Number	(X)	78,834	6.8	67,375	2.8
35230 23	Hog pens	Feet	(X)	285,782	2.1	(S)	.5
	Watering equipment:						
35230 25	Hog waterer, heated (pressure type)	Number	(X)	52,328	3.3	49,604	2.2
35230 27	Hog waterer, not heated (pressure and gravity type)		(X)	597,750	3.9	247,509	1.7
35230 29	Gravity storage hot waterer, 20-gallon capacity or more	Number	(X)	21,425	1.3	32,364	1.4
35230 35	Other hog equipment		(X)	336,288	11.3	(X)	[23]3.2
35230 39	Attachments for hog equipment		(X)	(X)	1.6	(X)	.3
	Farm wagons and other farm transportation equipment		(X)	(X)	152.1	(X)	98.4
	Wagons (chassis only) and trailer gears, excluding motor trucks:						
	4-wheel:						
35230 53	Under 4-ton capacity	Number	(X)	12,372	4.6	23,158	7.4
35230 55	4-ton capacity and over		(X)	45,459	19.0	54,240	11.1
	Boxes and racks for mounting on wagons, trucks, and trailer gears:						
35230 61	Manual unloading or dump		(X)	16,437	10.9	16,957	6.5
	Power unloading:						
35230 65	Grain type (cannot handle forage)		(X)	2,541	6.6	2,023	1.2
35230 68	Forage type		(X)	16,594	30.1	26,637	26.5
35230 63	Gravity unloading (grain type only)		(X)	28,714	14.4	39,955	8.4
35230 72	Boxes with integral running gear, grain and forage types		(X)	6,097	13.3	(X)	5.0
35230 78	Other farm transportation equipment	Number	(X)	11,847	44.4	(X)	27.2
35230 81	Attachments for farm transportation equipment		(X)	(X)	8.9	(X)	5.1
35239 --	Parts for farm machinery and equipment, sold separately		(X)	(X)	1,609.5	(X)	741.4
	Parts sold to plants producing farm equipment (original equipment):						
35239 21	Parts for wheel tractors		29	(X)	291.5	(X)	168.0
35239 01	Parts for listers, cultivators, and weeders		15	(X)	15.6		
35239 02	Parts for harrows, rollers, stalk cutters, and soil pulverizers		20	(X)	35.9		
35239 03	Parts for planting, seeding, and fertilizing machinery		25	(X)	56.7		
35239 04	Parts for haying machinery		13	(X)	20.7		
35239 05	Parts for harvesting machinery		26	(X)	93.5		
35239 06	Parts for farm poultry machinery		7	(X)	9.1	(X)	96.5
35239 07	Parts for farm dairy machinery		2	(X)	([24])		
35239 08	Parts for hog and other barn and barnyard machinery		7	(X)	15.7		
35239 09	Parts for machines for preparing crops for market or for use		8	(X)	12.2		
35239 11	Parts for sprayers and dusters		19	(X)	17.9		
35239 18	Parts for other farm machinery, excluding wheel tractors		39	(X)	[24]101.5		

See footnotes at end of table.

Table 6a. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3523- --	FARM MACHINERY AND EQUIPMENT--Con.						
35239 --	Parts for machinery and equipment, sold separately--Con.						
	Parts for replacement and repair:						
35239 25	Parts for wheel tractors:						
	As reported in the census of manufactures	.....	17	(X)	308.8	(X)	179.7
	As reported in Current Industrial Reports M35S, Tractors, Except Garden Tractors	.....	(X)	(X)	310.4	(X)	169.2
35239 30	Parts, except for wheel tractors:						
	As reported in the census of manufactures	.....	145	(X)	507.9	(X)	247.8
	As reported in the Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	535.9	(X)	237.9
35239 41	Parts for farm dairy machines and equipment	.....	(X)	(X)	24.2	(X)	13.5
35239 51	Parts for sprayers and dusters	.....	(X)	(X)	31.4	(X)	7.2
35239 61	Parts for farm poultry equipment	.....	(X)	(X)	7.1	(X)	3.1
35239 71	Parts for hog equipment	.....	(X)	(X)	1.6	(X)	.7
35239 80	Parts for cultivators and weeders	.....	(X)	(X)	30.6	(X)	18.2
35239 82	Parts for machines for preparing crops for market or for use	.....	(X)	(X)	12.1	(X)	5.0
35239 87	Parts for barn and barnyard equipment	.....	(X)	(X)	20.3	(X)	8.4
35239 89	Parts for farm wagons and other farm transportation equipment	.....	(X)	(X)	7.5	(X)	4.7
35239 91	Parts for planting, seeding, and fertilizing machinery	.....	(X)	(X)	71.4	(X)	29.8
35239 92	Parts for harrows, rollers, pulverizers, stalk cutters, and similar equipment	.....	(X)	(X)	59.6	(X)	15.6
35239 93	Parts for plows	.....	(X)	(X)	31.4	(X)	16.4
35239 94	Parts for harvesting machinery	.....	(X)	(X)	171.3	(X)	100.3
35239 95	Parts for haying machinery	.....	(X)	(X)	64.7	(X)	14.7
35239 97	Parts for farm elevators and blowers	.....	(X)	(X)	2.8	(X)	[12].3
35239 40	Operator cabs for farm equipment:[25]						
	As reported in the census of manufactures	Number.....	18	(S)	84.9	(X)	30.6
	As reported in the Current Industrial Reports MA-35A, Farm Machinery and Equipment		(X)	15,791	24.3	24,495	14.6
35239 83	Farm tractors		(X)	6,766	10.0		
35239 95	All other, including windrowers, combines, power sprayers, etc	Number.....	(X)	9,025	14.3	24,495	14.6
35239 00	Parts for farm machinery and equipment, sold separately, n.s.k	.....	(X)	(X)	37.8	(X)	18.8
3523A --	Commercial turf and grounds mowing equipment, including parts and attachments	.....	(X)	(X)	107.4	[26]	[26]
3523A 01	Powered non-riding mowers	Number.....	11	69,369	15.7		
3523A 03	Riding reel type turf mowers, except greens mowers		3	[27]	[27]		
3523A 05	Greens mowers, all types		4	×4,611	11.5		
3523A 07	Riding rotary turf mowers		10	14,051	27.5		
3523A 15	Gang rotary cutting units, reel and rotary (individual sections)		4	29,045	7.7	[26]	[26]
3523A 17	Flail mower cutting units, including gang	Number.....	2	[27]8,444	[27]11.3		
3523A 19	Other mowing equipment	.....	5	(X)	9.8		
3523A 31	Parts and attachments for commercial turf and grounds mowing equipment	.....	14	(X)	24.0		
3523A 00	Commercial turf and grounds mowing equipment, n.s.k	.....	(X)	(X)	-		
3523B --	Commercial turf and grounds care equipment, except mowing equipment, including parts and attachments	.....	(X)	(X)	172.9	[26]	[26]
3523B 01	Turf tractors	Number.....	4	[28]	[28]		
3523B 06	Sod cutters and sod harvesters		2	[29]	[29]	[26]	[26]
3523B 08	Seeders, spreaders, and top dresser attachments		5	(S)	2.7		
3523B 11	Aerators, spikers, and pluggers		3	(S)	2.2		
3523B 13	Dethatchers		2	[29]	[29]		
3523B 15	Power brooms, blowers, vacuums, and sweepers		6	(S)	5.6		
3523B 21	Irrigation systems, except agricultural and residential	Number.....	2	(S)	[29]3.1	[26]	[26]
3523B 25	Other commercial turf and grounds care equipment	.....	11	(X)	[28]147.7		
3523B 31	Parts and accessories for other commercial turf and grounds care equipment, except mowing equipment	.....	11	(X)	11.6		
3523B 00	Commercial turf and grounds care equipment, except mowing equipment, n.s.k	.....	(X)	(X)	-		
35230 00	Farm machinery and equipment, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	241.0	(X)	[30]139.2
35230 02	Farm machinery and equipment, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	310.8	(X)	[30]65.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1977		
	LAWN AND GARDEN EQUIPMENT				
3524- --	Total	.....	(X)	(X)	1,747.2
35241 --	Consumer nonriding lawn, garden, and snow equipment	.....	(X)	(X)	841.2
	Lawn mowers:				
35241 01	Reel, push type, nonpowered	Thousands	4	121.5	3.1
35241 02	Reel, push type, gasoline engine powered		7	35.7	6.0
35241 11	Rotary, push type, gasoline engine powered		30	3,080.5	249.7
35241 12	Rotary, self-propelled, gasoline engine powered		21	996.0	132.1
35241 15	Electric, all types, including battery powered		4	157.5	15.7
35241 20	Rotary garden (motor) tillers[31]		27	499.0	115.0
35241 30	2-wheel tractors, walking type, except rotary tillers[31]		3	([32])	([32])
	Snow throwers (snow blowers), except attachment types:				
35241 41	Single stage		9	244.2	37.9
35241 42	Dual stage		13	146.1	50.9
	Powered lawn edger/trimmers:				
35241 51	Fixed blade, gasoline engine powered		8	2,208.4	57.6
35241 52	Fixed blade, electric		2		
35241 53	Other than fixed blade		9	6,023.4	112.9
35241 61	Shredders and shredder-grinders		7	16.1	3.4
35241 62	Powered hedge trimmers		1	(S)	[32]20.6
35241 63	Yard vacuums and blowers		13	39.8	11.6
35241 64	Lawn sweepers, push type and powered, except attachment type	Thousands	4	89.5	5.0
35241 91	Other consumer nonriding lawn, garden, and snow equipment	.....	11	(X)	19.4
35241 00	Consumer nonriding lawn, garden, and snow equipment, n.s.k.	.....	(NA)	(X)	.4
35243 --	Parts and attachments for consumer nonriding lawn, garden, and snow equipment	.....	(NA)	(X)	103.2
35243 01	Parts	.....	36	(X)	70.6
35243 11	Attachments	.....	19	(X)	32.6
35243 00	Parts and attachments for consumer nonriding lawn, garden, and snow equipment, n.s.k.	.....	(NA)	(X)	-
35244 --	Consumer riding lawn, garden, and snow equipment[33]	.....	(NA)	(X)	577.4
	Lawn tractors and riding mowers:				
	Front engine:				
35244 01	Under 6.0 hp	Thousands	5	57.9	19.2
35244 02	6.0 hp and over		19	402.5	175.7
	Rear engine:				
35244 05	Under 6.0 hp		14	119.3	43.8
35244 06	6.0 hp and over		14	140.3	64.8
	Garden tractors:				
35244 11	Under 10.0 hp		6	13.1	12.1
35244 13	10.0 hp to 13.9 hp		16	70.0	88.5
35244 15	14.0 hp to 15.9 hp		13	33.1	51.8
35244 17	16.0 hp to 19.9 hp		15	68.6	105.7
35244 19	20.0 hp and over		1	*107.1	15.7
35244 31	Other consumer riding lawn, garden, and snow equipment	Thousands	3		
35244 00	Consumer riding lawn, garden, and snow equipment, n.s.k.	.....	(NA)	(X)	-
35245 --	Parts and attachments for consumer riding lawn, garden, and snow equipment	.....	(NA)	(X)	199.3
35245 01	Parts	.....	39	(X)	127.1
	Attachments:				
35245 11	Rotary mower decks	Thousands	11	105.5	25.0
35245 12	Rotary tiller attachments		12	*30.5	9.4
35245 13	Blades, dozer		11	50.7	5.8
35245 14	Snow throwers		11	19.7	5.3
35245 15	Carts and wagons	Thousands	7	*25.8	3.0
35245 19	All other attachments	.....	19	(X)	23.6
35245 00	Parts and attachments for consumer riding lawn, garden, and snow equipment, n.s.k.	.....	(NA)	(X)	-
35240 00	Lawn and garden equipment, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	17.0
35240 02	Lawn and garden equipment, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	9.1
			1972		
	LAWN AND GARDEN EQUIPMENT				
3524- --	Total	.....	(X)	(X)	1,143.4
35242 --	Garden tractors and motor tillers:				
	As reported in the census of manufactures	.....	(X)	(X)	321.1
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment	.....	(X)	(X)	291.4
	Garden tractors, except motor tillers:[5]				
	Riding type:				
35242 81	Under 7.0 engine hp	Number	(X)	70,858	37.4
35242 82	7.0 and under 10.0 engine hp		(X)	103,521	79.9
35242 84	10.0 and under 14.0 engine hp		(X)	65,392	61.1
35242 85	14.0 engine hp and over	Number			

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1972 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1972--Con.		
3524- --	LAWN AND GARDEN EQUIPMENT--Con.				
35242 --	Garden tractors and motor tillers--Con.				
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment--Con.				
	Garden tractors, except motor tillers--Con.				
	Walking type:				
35242 86	Under 7.0 engine hp	Number	(X)	89,022	19.1
35242 87	7.0 engine hp and over				
	Motor tillers:				
35242 88	Under 6 engine hp		(X)	307,909	34.4
35242 89	6 engine hp and over	Number	(X)	25,881	4.1
35242 91	Attachments for garden tractors		(X)	(X)	55.5
35242 92					
35247 --	Lawn mowers and snow blowers		(X)	(X)	550.2
35247 11	Hand (reel type) lawn mowers	Thousands	(X)	191.5	6.8
	Power lawn mowers:				
	Reel type:				
35247 23	Nonriding		(X)	81.7	9.1
35247 25	Integral riding, with fixed or floating mower		(X)	235.2	37.3
	Rotary type:				
35247 41	Hand traction		(X)	3,473.7	193.6
	Power traction:				
35247 53	Nonriding		(X)	843.8	80.8
35247 55	Integral riding, with fixed or floating mower		(X)	447.8	105.9
35247 61	Snow blowers and snow throwers, single purpose residential only, excluding large commercial type units		(X)	353.5	52.8
35247 81	Other, including gang-cutting units, sickle-bar mowers shipped as complete units, lawn edgers, and special cutting units	Thousands	(X)	381.8	27.2
35247 91	Attachments for lawn mowers, snow blowers, and similar equipment		(X)	(X)	28.3
35247 00	Lawn mowers and snow blowers, n.s.k.		(X)	(X)	8.4
35249 --	Parts for lawn and garden equipment, for sale separately		(X)	(X)	269.6
35249 11	Hedge trimmers and shears, power	Thousands	(X)	(S)	43.3
	Parts sold to plants producing farm equipment (original equipment):				
35249 13	Parts for garden tractors and motor tillers		(X)	(X)	24.8
35249 15	Parts for hedge trimmers and shears, power		(X)	(X)	(34)
35249 19	Parts for lawn mowers and snow blowers		(X)	(X)	141.0
	Parts for replacement and repair:				
35249 31	Parts for lawn mowers and snow blowers		(X)	(X)	33.2
35249 78	Parts for garden tractors and motor tillers:				
	As reported in the census of manufactures		(X)	(X)	24.5
	As reported in Current Industrial Reports MA-35A, Farm Machinery and Equipment		(X)	(X)	19.6
35249 81	Parts for hedge trimmers and shears, power		(X)	(X)	34 2.8
35240 00	Lawn and garden equipment, n.s.k., typically for establishments with 5 employees or more (see note)		(X)	(X)	2.5

Note: In the 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative record data rather than data actually collected from respondents. The employment cutoff used for administrative records for each industry and the shipments figures are included in the code ending with "002." In both the 1977 and 1972 Censuses of Manufactures, products not completely identified on the standard forms were coded in the appropriate product class (5 digits) followed by "00" or, in some cases, to the appropriate product group code (4 digits) followed by "000."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Comparable data for 1977 and 1972 from CIR MA-36H are 747 units at $357.7 million for 1977 and 649 units at $353.3 million for 1972.

[4]Data for product codes 35112 01 and 35112 09 are combined to avoid disclosing operations of individual companies.

[5]Includes basic engines (short block engines), primarily automotive type, shipped for conversion to marine or other nonautomotive uses. In 1977, 434,221 gasoline engines were shipped for conversion, compared to 247,559 in 1972 (from CIR MA-35L). Data on gas or nonautomotive diesel engines shipped for conversion were withheld to avoid disclosing operations of individual companies.

[6]Data for gasoline engines under 11 horsepower and gasoline engines 11 horsepower and over were combined to avoid disclosing operations of individual companies.

[7]See CIR MA-35L for more product detail.

[8]For 1977, dual-fuel engines accounted for less than two percent of total value. For 1972, 74 units were produced, of which 33 units, valued at $8.0 million, were shipped (from CIR MA-35L).

[9]Includes engines converted from purchased engines or from engines received from another plant of same company.

[10]CIR MA-35S collects data on attachments for tractors only from manufacturers of complete machines. Census of manufactures collects data on attachments from both complete machine and other manufacturers.

[11]For 1972, farm-type wheel tractors were included with nonfarm-type wheel tractors.

[12]For 1972, product class 35232 total (as reported in CIR MA-35A), farm elevators and blowers, and product code 35232 75 include data for parts for farm elevators (replacement units only). For 1972, product code 35239 97 excludes parts for farm elevators.

[13]For 1972, product codes 35232 29, 35232 37, 35232 38, and 35232 48 were included with product code 35232 56.

Footnotes continued on next page.

[14]For 1972, ground drive conveyor type manure spreaders (1972 product code 35233 63) and liquid manure pumps (product code 35233 69) were included with product code 35233 82.

[15]For 1977, product code 35235 42 was included with product code 35235 82 to avoid disclosing operations of individual companies.

[16]For 1972, semimounted cutter bar mowers except mower-conditioners and product code 35236 59 were included with product code 35236 82.

[17]For 1972, product codes 35238 61, 35238 93, and 35238 95 were included with product class 35238 total, as reported in census of manufactures, but excluded from product class 35238 total, as reported in CIR MA-35A.

[18]For 1972, product class 35238 total, as reported in census of manufactures, included other farm machines, equipment, and attachments, including windmill heads and windmill tower at $117.3 million and all other farm machinery and equipment, n.s.k. at $15.1 million.

[19]For 1977, product code 35238 01 was included with product code 35238 23 to avoid disclosing operations of individual companies.

[20]For 1972, six-row and over rear mounted corn- and cutter-type cultivators were included with product code 35238 23.

[21]For 1972, product code 35238 40 contains data for supplemental heaters, excluding fans.

[22]For 1972, product code 35238 86 was included with product code 35238 91.

[23]For 1972, product code 35230 11 was included with product code 35230 35 to avoid disclosing operations of individual companies.

[24]For 1977, product code 35239 07 was included with product code 35239 18 to avoid disclosing operations of individual companies.

[25]Data as reported in CIR MA-35A are limited to shipments for repair and replacement, data as reported in census cover all cab shipments.

[26]For 1972, data are not available for products in product classes 3523A and 3523B.

[27]For 1977, product code 3523A 03 was included with product code 3523A 17 to avoid disclosing operations of individual companies.

[28]For 1977, product code 3523B 01 was included with product code 3523B 25 to avoid disclosing operations of individual companies.

[29]For 1977, product codes 3523B 06 and 3523B 13 were included with product code 3523B 21 to avoid disclosing operations of individual companies.

[30]For 1972, product codes 35230 00 and 35230 02 include data not specified by kind for Industry 3524, Lawn and Garden Equipment.

[31]1978 CIR MA-35A, Farm Machinery and Equipment, reports rotary garden (motor) tillers at 425,495 units valued at $65.8 million for under six engine horsepower and 110,899 units valued at $53.1 million for six engine horsepower and over for 1977. Data for two-wheel walking type tractors have been combined with attachments for garden tractors.

[32]For 1977, product codes 35241 30 and 35241 62 were combined to avoid disclosing operations of individual companies.

[33]See CIR MA-35A for more product detail.

[34]For 1972, product codes 35249 15 and 35249 81 were combined to avoid disclosing operations of individual companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments (million dollars)	
	1977	1972
35112, STEAM, GAS, AND HYDRAULIC TURBINES AND PARTS		
United States	1,415.4	541.5
Middle Atlantic Division:		
Pennsylvania	331.3	150.7
35191, GASOLINE ENGINES UNDER 11 HORSEPOWER AND 35192, GASOLINE ENGINES, 11 HORSEPOWER AND OVER		
United States	892.9	490.8
East North Central Division:		
Michigan	97.8	(NA)
Wisconsin	741.2	(NA)
35193, DIESEL, SEMIDIESEL, DUAL FUEL ENGINE, EXC. AUTO.		
United States	1,587.4	604.0
East North Central Division:		
Illinois	769.7	GG
35194, DIESEL, SEMIDIESEL, DUAL FUEL ENGINE, AUTOMOTIVE		
United States	1,322.2	634.6
35196, GAS ENGINES, EXCEPT TURBINES		
United States	31.9	35.2
35195, OUTBOARD ENGINES AND 35197, TANK AND CONVERTED INTERNAL COMBUSTION ENGINES		
United States	813.7	425.9
East North Central Division:		
Michigan	206.2	61.3
35199, PARTS FOR INTERNAL COMBUSTION ENGINES		
United States	2,846.9	1,144.9
Middle Atlantic Division:		
New York	91.7	50.6
Pennsylvania	54.5	EE
East North Central Division:		
Ohio	162.1	85.3
Indiana	487.5	184.5
Illinois	509.4	176.6
Michigan	490.5	195.8
Wisconsin	443.9	229.8
West North Central Division:		
Iowa	86.7	FF
West South Central Division:		
Oklahoma	23.6	CC
Texas	13.9	5.7
Pacific Division:		
California	104.4	FF
35231, WHEEL TRACTORS AND ATTACHMENTS		
United States	2,637.0	1,215.2
35232, DAIRY EQUIPMENT, SPRAYERS, ELEVATORS, BLOWERS		
United States	306.4	157.8
East North Central Division:		
Ohio	7.3	1.7
Indiana	10.5	7.6
Illinois	69.0	38.5
Michigan	15.4	6.2
Wisconsin	33.4	14.2
West North Central Division:		
Iowa	33.2	16.6
North Dakota	5.5	BB
Nebraska	20.4	12.9
Kansas	30.5	10.9
South Atlantic Division:		
Georgia	2.2	(NA)
West South Central Division		
Texas	3.0	(NA)
35233, PLANTING, SEEDING, AND FERTILIZING MACHINERY		
United States	466.5	172.0
East North Central Division:		
Indiana	35.4	10.4
Illinois	180.4	48.9
Wisconsin	9.1	4.6
West North Central Division:		
Minnesota	28.9	12.0
Iowa	75.1	29.5
Nebraska	11.3	5.0
Kansas	20.8	4.6
South Atlantic Division:		
North Carolina	8.2	AA
West South Central Division:		
Texas	4.2	AA
35234, HARROWS, ROLLERS, PULVERIZERS, STALK CUTTERS		
United States	392.2	191.8
Middle Atlantic Division:		
Pennsylvania	7.2	BB
East North Central Division:		
Ohio	3.7	AA
Illinois	92.9	60.2
West North Central:		
Minnesota	8.5	BB
Iowa	28.8	14.7
Nebraska	8.0	2.9
Kansas	45.2	16.6
South Atlantic Division:		
North Carolina	2.2	(NA)
Georgia	13.2	7.3
East South Central Division:		
Tennessee	35.2	7.9
Mississippi	14.5	CC
West South Central Division:		
Texas	20.9	EE
Pacific Division:		
California	12.0	BB
35235, HARVESTING MACHINERY, EXCEPT FOR HAY AND STRAW		
United States	1,463.3	580.4
Middle Atlantic Division:		
New York	5.4	BB
West North Central Division:		
Minnesota	8.4	CC
South Atlantic Division:		
North Carolina	14.3	EE
West South Central Division:		
Arkansas	4.7	BB
Louisiana	10.4	8.4
Pacific Division:		
California	20.2	CC
35236, HAYING MACHINERY		
United States	414.9	184.1
East North Central Division:		
Wisconsin	7.8	1.7
West North Central Division:		
South Dakota	11.9	AA
35237, PLOWS		
United States	199.0	85.4
West North Central Division:		
Kansas	10.3	BB
South Atlantic Division:		
Georgia	2.5	(NA)
West South Central Division:		
Texas	6.0	BB

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments (million dollars)	
	1977	1972
35238, FARM MACHINERY AND EQUIPMENT, N.E.C.		
United States	1,228.0	610.8
Middle Atlantic Division:		
New York	2.4	1.4
Pennsylvania	29.6	19.4
East North Central Division:		
Ohio	33.6	EE
Indiana	57.2	31.0
Illinois	124.1	54.4
Michigan	37.6	EE
Wisconsin	117.5	77.7
West North Central Division:		
Minnesota	49.9	26.6
Iowa	177.4	105.2
North Dakota	15.9	BB
South Dakota	13.1	AA
Nebraska	206.5	58.6
Kansas	48.2	33.1
South Atlantic Division:		
Maryland	2.5	(NA)
North Carolina	24.3	CC
Georgia	30.9	20.3
East South Central Division:		
Alabama	7.9	BB
Mississippi	7.0	6.4
West South Central Division:		
Texas	25.0	11.2
Mountain Division:		
Colorado	24.6	8.5
Pacific Division:		
Washington	20.5	5.0
Oregon	20.4	8.3
California	70.4	42.5
35239, PARTS FOR FARM MACHINERY AND EQUIPMENT		
United States	1,609.5	741.4
Middle Atlantic Division:		
New York	18.1	CC
Pennsylvania	55.4	FF
East North Central Division:		
Ohio	37.0	12.4
Indiana	63.6	16.2
Illinois	439.6	218.9
Michigan	107.7	39.6
Wisconsin	120.0	48.7
West North Central Division:		
Minnesota	35.1	16.6
Iowa	429.0	213.6
Missouri	34.4	EE
North Dakota	15.2	BB
South Dakota	2.2	BB
Nebraska	39.7	16.2
Kansas	32.9	18.1
South Atlantic Division:		
North Carolina	7.4	2.0
Georgia	11.8	4.5
East South Central Division:		
Alabama	5.2	(NA)
Mississippi	6.3	(NA)
West South Central Division:		
Louisiana	2.6	AA
Oklahoma	14.6	5.0
Texas	11.6	4.4
Mountain Division:		
Colorado	15.7	8.0
Pacific Division:		
California	19.1	5.3
3523A, COMMERCIAL TURF AND GROUNDS MOWING EQUIPMENT		
United States	107.4	(NA)
East North Central Division:		
Illinois	13.0	(NA)
West North Central Division:		
Kansas	8.2	(NA)
3523B, OTHER COMMERCIAL TURF AND GROUNDS CARE EQUIPMENT		
United States	172.9	(NA)
East North Central Division:		
Indiana	5.0	(NA)
Wisconsin	8.5	(NA)
West North Central Division:		
Minnesota	8.7	(NA)
Pacific Division:		
California	4.2	(NA)
35241, CONSUMER NONRIDING LAWN AND GARDEN EQUIPMENT		
United States	841.2	(NA)
East North Central Division:		
Indiana	12.2	(NA)
Illinois	83.4	(NA)
Wisconsin	67.2	(NA)
South Atlantic Division:		
South Carolina	40.2	(NA)
Florida	2.2	(NA)
East South Central Division:		
Mississippi	95.4	(NA)
Pacific Division:		
California	45.3	(NA)
35243, PARTS FOR CONSUMER NONRIDING LAWN, GARDEN EQUIPMENT		
United States	103.2	(NA)
East North Central Division:		
Ohio	7.5	(NA)
Illinois	2.4	(NA)
Wisconsin	4.5	(NA)
West North Central Division:		
Missouri	9.1	(NA)
East South Central Division:		
Mississippi	4.1	(NA)
35244, CONSUMER RIDING LAWN AND GARDEN EQUIPMENT		
United States	577.4	(NA)
East North Central Division:		
Wisconsin	177.0	(NA)
West North Central Division		
Kansas	2.4	(NA)
35245, PARTS FOR CONSUMER RIDING, LAWN, GARDEN EQUIP.		
United States	199.3	(NA)
East North Central Division:		
Ohio	16.8	(NA)
Indiana	26.3	(NA)
Illinois	14.8	(NA)
Wisconsin	71.4	(NA)
West North Central Division:		
Iowa	3.2	(NA)
East South Central Division:		
Mississippi	3.5	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because the estimate did not meet publication standards.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3511-	TURBINES AND TURBINE GENERATOR SETS	2 813.1	2 803.6	2 585.3	2 482.3	2 285.0	2 079.7	1 059.3	589.1
35111	STEAM, GAS, AND HYDRAULIC TURBINE GENERATOR SETS	1 369.2	1 803.2	1 586.9	1 765.0	1 688.1	1 521.6	714.5	589.1
35112	STEAM, GAS, AND HYDRAULIC TURBINES AND PARTS	1 415.4	996.7	994.2	711.1	574.7	541.5	344.7	
35110	TURBINE AND TURBINE GENERATOR SETS, N.S.K.	28.5	(S)	(S)	(6.2)	22.2	16.6	-	-
3519-	INTERNAL COMBUSTION ENGINES, N.E.C.	7 548.0	6 138.3	5 190.7	5 095.1	4 105.9	3 353.4	2 187.6	1 423.9
35191	GASOLINE ENGINES UNDER 11 HORSEPOWER	892.9	721.1	649.1	767.6	593.6	490.8	215.5	270.1
35192	GASOLINE ENGINES, 11 HORSEPOWER AND OVER							171.4	
35193	DIESEL, SEMIDIESEL, DUAL FUEL ENGINE, EXC. AUTO.	1 587.4	1 258.2	1 295.8	1 055.5	774.5	604.0	447.9	464.4
35194	DIESEL, SEMIDIESEL, DUAL FUEL ENGINE, AUTOMOTIVE	1 322.2	926.6	605.8	878.6	752.0	634.6	233.2	
35195	OUTBOARD ENGINES	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
35196	GAS ENGINES, EXCEPT TURBINES	31.9	54.1	61.0	37.6	51.7	35.2	22.6	22.1
35197	TANK AND CONVERTED INTERNAL COMBUSTION ENGINES	[2] 813.7	[2]871.1	[2]659.4	[2]549.2	[2]549.9	[2]425.9	[2]267.1	[2]183.8
35199	PARTS FOR INTERNAL COMBUSTION ENGINES	2 846.9	2 302.4	1 914.5	1 791.9	1 365.3	1 144.9	816.0	480.6
35190	INTERNAL COMBUSTION ENGINES, N.S.K.	52.9	(4.8)	(S)	(14.7)	18.9	18.0	13.9	2.9
3523-	FARM MACHINERY AND EQUIPMENT	9 548.9	8 420.6	7 689.7	6 545.7	5 137.4	4 143.5	(NA)	(NA)
35231	WHEEL TRACTORS AND ATTACHMENTS	2 637.0	2 514.1	2 373.7	1 753.0	1 413.9	1 215.2	1 040.2	808.4
35232	DAIRY EQUIPMENT, SPRAYERS, ELEVATORS, BLOWERS	306.4	318.2	262.2	285.4	213.9	[3]157.8	(NA)	(NA)
35233	PLANTING, SEEDING, AND FERTILIZING MACHINERY	466.5	440.3	394.3	289.2	210.1	172.0	183.0	115.7
35234	HARROWS, ROLLERS, PULVERIZERS, STALK CUTTERS	392.2	450.5	430.6	384.9	247.0	191.8	([4])	([4])
35235	HARVESTING MACHINERY, EXCEPT FOR HAY AND STRAW	1 463.3	1 341.8	1 122.8	965.4	766.1	580.4	580.7	395.3
35236	HAYING MACHINERY	414.9	439.9	461.9	384.7	252.2	184.1	148.8	133.8
35237	PLOWS	199.0	209.1	196.6	151.8	111.5	85.4	[4]281.1	[4]192.8
35238	FARM MACHINERY AND EQUIPMENT, N.E.C.	1 228.0	1 215.2	1 080.8	1 104.7	856.0	[5]610.8	458.0	(NA)
35239	PARTS FOR FARM MACHINERY AND EQUIPMENT	1 609.5	1 412.8	1 247.7	1 084.8	849.3	741.4	565.0	([6])
3523A	COMMERCIAL TURF AND GROUNDS MOWING EQUIPMENT	107.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3523B	OTHER COMMERCIAL TURF AND GROUNDS CARE EQUIPMENT	172.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
35230	FARM MACHINERY AND EQUIPMENT, N.S.K.	551.8	(78.6)	(119.2)	141.8	217.4	[7]204.6	156.6	71.5
3524-	LAWN AND GARDEN EQUIPMENT[8]	1 747.2	1 675.8	1 558.0	1 712.8	1 249.3	1 143.4	(NA)	(NA)
35241	CONSUMER NONRIDING LAWN AND GARDEN EQUIPMENT	841.2	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
35243	PARTS FOR CONSUMER NONRIDING LAWN, GARDEN EQUIP	103.2	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
35244	CONSUMER RIDING LAWN AND GARDEN EQUIPMENT	577.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
35245	PARTS FOR CONSUMER RIDING, LAWN, GARDEN EQUIP	199.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
35240	LAWN AND GARDEN EQUIPMENT, N.S.K.	26.1	1.8	1.8	(1.7)	-	2.5	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Product class 35195 is combined with product class 35197 to avoid disclosing data for individual companies.

[3]Individual product codes included in product class for 1972 differ significantly from codes for prior year. Products shifting into or out of product class represent more than 15 percent of total U.S. value shipped.

[4]For 1967 and 1963, product class 35234 was combined with product class 35237 to avoid disclosing data for individual companies.

[5]Individual product codes included in product class for 1972 differ from the codes for 1967. Products shifting into or out of this product class represent approximately 12 percent of total 1967 shipments.

[6]For 1963 and earlier, parts were included with applicable product classes.

[7]For 1972, product class 35230 includes data not specified by kind for industry 3524.

[8]Product class structure of industry changed significantly between 1976 and 1977; 1977 data are not comparable with data for prior years. Industry 3524 was created for 1972 (being formerly a part of industry 3522); thus, no comparable data prior to 1972 exist.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3511, TURBINES AND TURBINE GENERATOR SETS					
	Materials, parts, containers, and supplies		(X)	1,111.4	(X)	860.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	16.4		
331012	Sheet and strip		(S)	5.5		
331013	Plates		195.1	90.1		
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:				319.8	114.2
331021	Bars and bar shapes		(S)	21.8		
331029	All other alloy steel mill shapes and forms		*19.4	29.8		
	Stainless steel:					
331033	Sheet and strip		(S)	40.8		
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Copper and copper-base alloy mill shapes and forms:					
335728	Bare wire for electrical conduction	Million lb				
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content)				
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	57.7	(D)	(D)
335143	Plate, sheet, and strip, including military cups and discs					
335152	Pipe and tube					
335001	Aluminum and aluminum-base alloy mill shapes and forms	Million lb	**1.4	1.7	(D)	(D)
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons	-	-	(D)	(D)
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap		-	-	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*16.2	29.6	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		27.0	52.9	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(2)	(2)	(D)	(D)
	Produced and consumed		-	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	25.6	(D)	(D)
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
359225	Pistons, piston rings, carburetors, valves (intake and exhaust only)		(X)	(D)	(X)	(D)
362120	Integral horsepower electric motors and generators:					
	Purchased	Thousands	(S)	12.5	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
369401	Engine electrical equipment, including spark plugs, magnetos, generators, starters, etc		(X)	(D)	(X)	(D)
	Bearings:					
356218	Ball		(X)	(D)	(X)	(D)
356201	Roller					
356810	Plain bearings and bushings		(X)	5.7	(X)	314.0
356601	Speed changers, drives, and gears		(X)	10.8		
344001	Fabricated structural metal products		(X)	(D)	(4)	(4)
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products, fabricated steel plate and weldments		(X)	30.4		
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	9.1	(X)	39.0
346901	Metal stampings		(X)	(D)	(4)	(4)
354501	Cutting tools for machine tools		(X)	12.7	(X)	312.0
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment	Thousands	2.1	4.5		
356301	Air and gas compressors, except refrigeration compressors	Thousands	(D)	(D)	(X)	4370.5
970099	All other materials and components, parts, containers, and supplies consumed		(X)	345.3		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	(D)	(X)	(D)
	INDUSTRY 3519, INTERNAL COMBUSTION ENGINES, N.E.C.					
	Materials, parts, containers, and supplies		(X)	4,150.6	(X)	1,630.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	66.9	36.0	45.8	12.7
331012	Sheet and strip		100.9	41.6	159.6	30.1
331013	Plates		*39.5	14.3	12.5	2.7
331019	All other carbon steel mill shapes and forms		(S)	12.4	12.4	3.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		19.9	12.5	14.0	5.6
331029	All other alloy steel mill shapes and forms		(S)	.9	2.8	3.5
	Stainless steel:					
331033	Sheet and strip		(S)	4.4	3.1	4.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons	*3.3	6.4		

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3519, INTERNAL COMBUSTION ENGINES, N.E.C.--Con.					
	Mill shapes and forms, except castings--Con.					
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb			(D)	(D)
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content)	(S)	12.6	(S)	4.2
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	16.4	13.5	1.0	.8
335143	Plate, sheet, and strip, including military cups and discs				11.5	12.1
335152	Pipe and tube		(S)	6.0		
335001	Aluminum and aluminum-base alloy mill shapes and forms	Million lb	*3.8	3.5	5.5	2.6
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons	(D)	(D)	(D)	(D)
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap					
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		567.6	547.7	425.6	222.4
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		13.0	40.4	6.0	5.5
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	239.6	237.3	119.0	86.3
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		*8.3	8.7	4.9	3.7
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	*135.3	188.6	127.0	57.2
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
359225	Pistons, piston rings, carburetors, and valves (intake and exhaust only)		(X)	170.7	(X)	83.1
362120	Integral horsepower electric motors and generators:					
	Purchased	Thousands	(D)	(D)	(S)	11.4
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
369401	Engine electrical equipment, including spark plugs, magnetos, generators, starters, etc		(X)	166.8	(X)	40.3
	Bearings:					
356218	Ball		(X)	23.9	(X)	8.5
356201	Roller		(X)	20.0	(X)	11.5
356810	Plain bearings and bushings		(X)	36.9	(X)	[3]24.0
356601	Speed changers, drives, and gears		(X)	82.9		
344001	Fabricated structural metal products		(X)	9.4	(D)	([6])
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products, fabricated steel plate and weldments		(X)	35.6	(X)	[3]16.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	87.1	(X)	[3]29.0
346901	Metal stampings		(X)	48.4	(X)	[3]28.0
354501	Cutting tools for machine tools		(X)	52.0	(X)	[3]17.0
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment	Thousands	(S)	8.9		
356301	Air and gas compressors, except refrigeration compressors	Thousands	(S)	28.4	(X)	[6]715.0
970099	All other materials and components, parts, containers, and supplies		(X)	1,860.3		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	85.8	(X)	112.0
	INDUSTRY 3523, FARM MACHINERY AND EQUIPMENT					
	Materials, parts, containers, and supplies		(X)	5,030.4	(X)	2,221.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	560.1	220.6	473.3	102.1
331012	Sheet and strip		968.6	311.1	786.1	153.8
331013	Plates		249.5	89.1	219.5	42.9
331015	Structural shapes		*177.9	62.7	99.0	20.3
331017	Wire and wire products		*32.1	18.6	29.9	9.0
331019	All other carbon steel mill shapes and forms		*237.4	103.8	130.8	33.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*56.3	25.5	84.2	20.4
331029	All other alloy steel mill shapes and forms		(S)	9.5	26.8	6.2
	Stainless steel mill shapes and forms:					
331033	Sheet and strip		(S)	15.8	6.0	6.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	2.1	1.7	2.7
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	5.0	(S)	1.6
335143	Plate, sheet, and strip, including military cups and discs		.1	.2	.2	.2
335152	Pipe and tube		(S)	13.5	(S)	7.7
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**9.9	6.7	3.6	1.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**15.2	10.7	4.6	1.8
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	4.1	2.4	1.0
346901	Metal stampings		(X)	48.2	(X)	([2])
339915	Metal powders	Million lb	16.0	3.5	(D)	(D)
331015	Pig iron, excluding silvery iron	1,000 s. tons	31.3	5.9	47.9	4.1
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons	166.1	18.8	238.1	9.4

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3523, FARM MACHINERY AND EQUIPMENT--Con.					
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	421.2	371.4	323.8	160.1
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		18.0	20.7	15.2	11.5
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	15.9	7.7	5.8
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	*99.0	96.9	72.2	43.3
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands	199.6	432.3	115.2	106.3
	Produced and consumed		(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor:					
	Purchased		163.9	42.7	430.8	51.6
	Produced and consumed		(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors (under 1 hp), excluding timing motors:					
	Purchased		**226.6	11.1	241.5	5.6
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		*205.1	23.0	141.4	10.0
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	57.5	(X)	30.4
356201	Roller		(X)	43.2	(X)	20.0
356810	Plain bearings and bushings		(X)	16.6		
356601	Speed changers, drives and gears		(X)	121.9		
356101	Pumps and pump parts	Thousands	592.1	49.4		
356301	Air and gas compressors	Thousands	(S)	7.8	(X)	(7)
359902	Hydraulic and pneumatic equipment, except pumps and compressors		(X)	95.4		
369401	Engine electrical equipment, spark plugs, magnetos, generators, starters, etc		(X)	61.7		
359225	Pistons, piston rings, carburetors, and valves (intake and exhaust only)		(D)	(8)		
301131	Pneumatic tires	Thousands	5,218.0	204.1	(S)	74.6
301141	Inner tubes	Thousands	**442.0	4.3	(D)	(D)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	Thousand gal	*5,113.2	29.5		
306902	Fabricated rubber products, except tires, tubes, hoses, beltings, and gaskets		(X)	29.9		
307902	Fabricated plastics products, except gaskets		(X)	24.8	(X)	71,059.7
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	96.3		
970099	All other materials and components, parts, containers, and supplies		(X)	81,648.3		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	550.3	(X)	208.7
	INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT					
	Materials, parts, containers, and supplies		(X)	909.1	(X)	624.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	*32.9	14.6	39.9	9.9
331012	Sheet and strip		118.8	49.9	155.6	30.8
331013	Plates		(S)	1.9	(S)	.6
331015	Structural shapes		(S)	1.7	1.0	.3
331017	Wire and wire products		**6.9	4.0	(S)	1.0
331019	All other carbon steel mill shapes and forms		(S)	6.2	38.8	11.4
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	.3		
331029	All other alloy steel mill shapes and forms					
	Stainless steel mill shapes and forms:		(S)	10.2	(S)	5.1
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(9)	(9)	1.1	.5
335143	Plate, sheet, and strip, including military cups and discs		-	-		
335152	Pipe and tube		9(S)	91.1		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		9.7	5.7	4.7	1.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	5.6		
346901	Metal stampings		(X)	29.1	(X)	(10)
339915	Metal powders	Million lb	(S)	7.3	(S)	2.7
331051	Pig iron, excluding silvery iron	1,000 s. tons	-	-	-	-
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons	(D)	(D)	-	-

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3524, LAWN AND GARDEN EQUIPMENT--Con.					
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	(S)	16.3	23.0	10.1
	Produced and consumed		-	(X)	(S)	(X)
332045	Steel:					
	Purchased		1.0	.8	(S)	.3
	Produced and consumed	1,000 s. tons	-	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	*31.0	20.1	18.5	9.4
	Produced and consumed	Million lb	(D)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	(S)	2.9	3.7	2.9
	Produced and consumed	1,000 s. tons	-	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands	(D)	(D)	(D)	(D)
	Produced and consumed		-	(X)	(S)	(X)
351901	Gasoline and other carburetor:					
	Purchased		4,718.0	285.0	(D)	(D)
	Produced and consumed		-	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors (under 1 hp), excluding timing motors:					
	Purchased		3,358.0	12.2	(S)	1.6
	Produced and consumed		-	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	Thousands	-	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	5.5	(X)	6.3
356201	Roller		(X)	3.6	(X)	2.2
356810	Plain bearings and bushings		(X)	5.2		
356601	Speed changers, drives and gears		(X)	29.6		
356101	Pumps and pump parts	Thousands	(D)	(D)		
356301	Air and gas compressors	Thousands	(D)	(D)	(X)	([10])
359902	Hydraulic and pneumatic equipment, except pumps and compressors		(X)	6.3		
369401	Engine electrical equipment, spark plugs, magnetos, generators, starters, etc		(X)	10.5		
359225	Pistons, piston rings, carburetors, valves, intake and exhaust only		(X)	3.4		
301131	Pneumatic tires	Thousands	**8,165.0	26.3	(S)	33.1
301141	Inner tubes	Thousands	(D)	(D)		
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	Thousand gal	*779.5	5.0		
306902	Fabricated rubber products, except tires, tubes, hoses, beltings, and gaskets		(X)	4.3		
307902	Fabricated plastics products, except gaskets		(X)	25.9	(X)	[10]241.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	23.6		
970099	All other materials and components, parts, containers, and supplies		(X)	249.1		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	32.6	(X)	84.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (S) Withheld because estimate did not meet publication standards. (X) Not collected. n.s.k. Not specified by kind.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimate in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1977, material codes 336100 and 336200 were combined to avoid disclosing operations of individual companies.

[3]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[4]For 1972, material codes 344001, 344301, and 346901 were included with material code 970099.

[5]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[6]For 1972, material code 344001 was included with material code 970099.

[7]For 1972, materials codes 346901, 356810, 356601, 356101, 356301, 359902, 369401 and 359225 were combined with material codes 285101, 306902, 307902, 345001, and 970099.

[8]For 1977, material code 359225 was included with material code 970099 to avoid disclosing operations of individual companies.

[9]For 1977, material codes 335102 and 335152 were combined to avoid disclosing operations of individual companies.

[10]For 1972, material codes 346901, 356810, 356101, 356301, 359902, 369401, and 359225 were included with material code 970099.

Construction, Mining, and Materials Handling Machinery and Equipment

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DESCRIPTION OF INDUSTRIES

CONSTRUCTION, MINING, AND MATERIALS HANDLING MACHINERY AND EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3531 Construction Machinery
3532 Mining Machinery
3533 Oil Field Machinery
3534 Elevators and Moving Stairways
3535 Conveyors and Conveying Equipment
3536 Hoists, Cranes, and Monorails
3537 Industrial Trucks and Tractors

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3531, CONSTRUCTION MACHINERY

This industry comprises establishments primarily engaged in the manufacture of heavy machinery and equipment used by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant type; dredging machinery; pavers; and power shovels. Establishments primarily engaged in the manufacture of mining equipment are classified in industry 3532, and well drilling machinery in industry 3533.

The 1977 definition of this industry has been revised from that given in the 1972 SIC manual, but the SIC number and title are unchanged. For 1977, portable water well and blast hole drills were reclassified from this industry to industry 3533, Oil Field Machinery.

The total value of shipments for establishments classified in the Construction Machinery industry amounted to $12,629 million in 1977, an increase of 107 percent from 1972. The value of shipments of products classified as primary to the industry was $11,570 million, an increase of 105 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were power cranes, draglines, and shovels (excavators), for which shipments increased 147 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $5,744 million in 1977, was 83 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 155.3 thousand employees, an increase of 16 percent from 1972. The leading States in employment were Illinois, Iowa, Ohio, and Wisconsin, accounting for approximately 60 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for 60 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of most types of construction machinery only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of most types of construction machinery are reported annually and quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-35D and MA-35D, Construction Machinery, and monthly in the M35S, Tractors, Except Garden Tractors.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3532, MINING MACHINERY

This industry comprises establishments primarily engaged in the manufacture of heavy machinery and equipment used by the mining industries, such as coal breakers, mine cars, mineral cleaning machinery, concentration machinery, core drills, coal cutters, portable rock drills, and rock crushing machinery. Establishments primarily engaged in the manufacture of construction machinery are classified in industry 3531, well drilling

machinery in industry, 3533, and coal and ore conveyors in industry 3535.

The total value of shipments for establishments classified in the Mining Machinery industry amounted to $1,997 million in 1977, an increase of 159 percent from 1972. The value of shipments of products classified as primary to the industry was $1,786 million, an increase of 145 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $1,019 million in 1977, was 159 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 31.4 thousand employees, an increase of 47 percent from 1972. The leading States in employment were Pennsylvania, Ohio, West Virginia, and Wisconsin, accounting for approximately 45 percent of the industry's 1977 employment. These same States were in the forefront for 1972.

The 1977 census obtained data on shipments of mining machinery only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of mining machinery are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35F, Mining Machinery and Equipment. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3533, OIL FIELD MACHINERY

This industry comprises establishments primarily engaged in the manufacture of machinery and equipment for use in oil and gas fields or for drilling water wells.

The 1977 definition of this industry has been revised from that given in the 1972 SIC manual, but the SIC number and title are unchanged. For 1977, portable water well and blast hole drills were reclassified to this industry from Industry 3531, Construction Machinery.

The total value of shipments for establishments classified in the Oil Field Machinery industry amounted to $3,912 million in 1977, an increase of 223 percent from 1972. The value of shipments of products classified as primary to the industry was $3,219 million, an increase of 229 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were rotary drilling subsurface bits, for which shipments increased 227 percent, and well control equipment, for which shipments increased 533 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,438 million in 1977, was 209 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 58.6 thousand employees, an increase of 63 percent from 1972. The leading States in employment were Texas, California, Oklahoma, and Pennsylvania, accounting for approximately 95 percent of the industry's 1977 employment. These same States were in the forefront for 1972.

The 1977 census obtained data on shipments of portable water well and blast hole drilling rigs only at the total level. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of portable water well and blast hole drilling rigs are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-35D, Construction Machinery. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3534, ELEVATORS AND MOVING STAIRWAYS

This industry comprises establishments primarily engaged in the manufacture of passenger or freight elevators, automobile lifts, dumb waiters, and moving stairways. Establishments primarily engaged in the manufacture of commercial conveyor systems and equipment are classified in industry 3535, and farm elevators in industry 3523.

The total value of shipments for establishments classified in the Elevators and Moving Stairways industry amounted to $490 million in 1977, an increase of 1 percent from 1972. The value of shipments of products classified as primary to the industry was $435 million, an increase of 6 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $284 million in 1977, was 8 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.2 thousand employees, a decrease of 32 percent from 1972. The leading States in employment were New Jersey, New York, Indiana, and California. Data for New Jersey have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

INDUSTRY 3535, CONVEYORS AND CONVEYING EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of conveyors and conveying equipment for installation in factories, warehouses, mines, and other industrial and commercial establishments. Establishments primarily engaged in the manufacture of passenger or freight elevators, dumb waiters, and moving stairways are classified in industry 3534, and overhead traveling cranes and monorail systems in industry 3536.

The total value of shipments for establishments classified in the Conveyors and Conveying Equipment industry amounted to $1,903 million in 1977, an increase of 97 percent from 1972. The value of shipments of products classified as primary to the industry was $1,685 million, an increase of 104 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $1,022 million in 1977, was 89 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are threfore not adjusted for changes in price levels.

In 1977 the industry had 33.0 thousand employees, an increase of 21 percent from 1972. The leading States in employment were Michigan, Pennsylvania, Ohio, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 45 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3536, HOISTS, CRANES, AND MONORAILS

This industry comprises establishments primarily engaged in the manufacture of overhead traveling cranes, hoists, and monorail systems for installation in factories, warehouses, and other industrial and commercial establishments.

The total value of shipments for establishments classified in the Hoists, Cranes, and Monorails industry amounted to $836 million in 1977, an increase of 59 percent from 1972. The value of shipments of products classified as primary to the industry was $901 million, an increase of 102 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The product accounting for a significant portion of this change was electric bridge type overhead traveling cranes, for which shipments increased 133 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $453 million in 1977, was 65 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.8 thousand employees, a decrease of 3 percent from 1972. The leading States in employment were Ohio, Pennsylvania, Michigan, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

INDUSTRY 3537, INDUSTRIAL TRUCKS AND TRACTORS

This industry comprises establishments primarily engaged in the manufacture of industrial trucks, tractors, trailers, stackers (truck type), and related equipment used for handling materials on floors and paved surfaces in and around industrial and commercial plants, depots, docks, and terminals. Establishments primarily engaged in the manufacture of motor vehicles and motor vehicle type trailers are classified in industry group 371, farm type wheel tractors in industry 3523, wheel tractor shovel loaders and tracklaying tractors in industry 3531, and wood pallets and skids in industry 2448.

The total value of shipments for establishments classified in the Industrial Trucks and Tractors industry amounted to $1,920 million in 1977, an increase of 85 percent from 1972. The value of shipments of products classified as primary to the industry was $1,800 million, an increase of 79 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were electric industrial trucks, for which shipments increased 117 percent, and internal combustion powered trucks, for which shipments increased 60 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $877 million in 1977, was 67 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.8 thousand employees, an increase of 116 percent from 1972. The leading States in employment were Ohio, Illinois, Michigan, and California, accounting for approximately 55 percent of the industry's 1977 employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
INDUSTRY 3531, CONSTRUCTION MACHINERY																
1977 Census	807	922	446	155.3	2 547.1	111.2	212.7	1 708.1	5 744.3	6 822.6	12 628.7	498.3	(NA)	3 142.3	91	95
1976 ASM	(NA)	(NA)	(NA)	144.8	2 119.0	102.3	195.4	1 415.3	4 645.3	5 798.2	10 405.7	468.5	3 168.1	2 985.3	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	150.3	2 069.7	108.7	215.8	1 423.2	4 620.9	5 738.0	10 150.7	429.2	2 662.4	2 864.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	157.5	2 021.7	116.4	236.6	1 418.1	4 522.9	5 209.8	9 256.2	396.6	2 334.8	2 712.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	151.1	1 760.1	111.8	227.8	1 228.0	3 736.2	3 750.6	7 333.5	216.2	2 009.3	1 993.5	(NA)	(NA)
1972 Census	644	748	387	133.8	1 460.2	98.2	197.4	997.0	3 130.7	3 055.2	6 091.0	159.5	1 840.8	1 695.7	90	93
1971 ASM	(NA)	(NA)	(NA)	121.4	1 211.5	87.4	169.4	802.7	2 386.3	2 496.8	4 820.0	137.9	1 765.5	1 510.3	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	129.8	1 180.5	94.1	186.0	792.3	2 334.3	2 527.9	4 779.8	132.5	1 648.4	1 404.3	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	138.1	1 202.2	102.2	205.5	824.1	2 454.7	2 555.0	4 882.7	134.7	1 619.1	1 301.4	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	137.6	1 110.3	101.2	199.3	755.2	2 312.9	2 274.4	4 549.0	146.7	1 551.7	1 111.4	(NA)	(NA)
1967 Census	578	651	358	133.1	989.4	98.6	193.8	673.4	2 056.5	2 103.6	4 138.0	184.9	1 419.6	1 034.2	88	92
1966 ASM	(NA)	(NA)	(NA)	121.2	899.0	92.1	192.8	632.4	1 880.7	1 968.1	3 767.8	129.8	(NA)	929.3	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	121.5	850.0	90.8	186.0	590.7	1 745.0	1 849.3	3 545.6	105.1	(NA)	854.8	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	116.3	790.1	86.6	177.7	544.1	1 590.1	1 666.5	3 200.1	74.1	973.5	780.6	(NA)	(NA)
1963 Census	561	617	305	104.5	683.7	76.5	155.3	462.4	1 301.3	1 403.2	2 696.0	58.2	917.7	671.6	91	89
INDUSTRY 3532, MINING MACHINERY																
1977 Census	293	344	168	31.4	425.9	20.3	39.7	262.9	1 018.8	1 021.9	1 996.7	67.0	(NA)	646.1	88	86
1976 ASM	(NA)	(NA)	(NA)	31.9	410.3	21.7	43.4	255.0	854.9	1 118.0	1 941.1	68.6	427.6	615.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	29.4	365.9	20.3	40.0	226.8	879.6	943.2	1 702.3	82.8	387.4	598.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	25.3	274.8	17.5	34.4	169.8	639.1	630.5	1 188.4	29.6	274.6	418.8	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	22.5	227.2	15.2	29.9	136.7	476.1	432.2	876.3	16.0	250.8	277.8	(NA)	(NA)
1972 Census	220	240	124	21.3	197.6	14.3	27.4	118.9	393.2	389.0	771.2	13.4	235.1	237.7	87	81
1971 ASM	(NA)	(NA)	(NA)	22.8	195.9	15.3	28.8	116.4	445.0	429.1	865.2	19.6	232.3	225.2	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	22.4	184.3	15.4	29.8	111.6	366.2	341.2	696.4	20.9	220.0	195.9	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	21.5	168.7	14.0	27.3	101.3	299.5	293.9	593.8	17.0	201.7	170.1	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	17.6	127.0	12.7	24.7	85.5	226.2	259.0	513.9	11.6	199.0	161.6	(NA)	(NA)
1967 Census	197	212	110	21.7	156.7	14.9	29.7	95.8	308.3	313.5	622.2	18.4	195.3	171.2	78	82
1966 ASM	(NA)	(NA)	(NA)	21.6	155.1	15.2	31.4	99.2	306.3	343.5	630.4	19.4	(NA)	166.0	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	20.3	138.1	14.0	28.3	87.6	269.2	286.4	545.1	9.6	(NA)	140.3	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	18.7	123.6	13.0	25.9	76.3	241.2	239.1	475.7	7.8	(NA)	123.7	(NA)	(NA)
1963 Census	198	204	93	16.9	109.5	11.8	23.3	67.7	215.4	203.8	417.6	6.8	139.2	109.4	75	82
INDUSTRY 3533, OIL FIELD MACHINERY																
1977 Census	386	478	247	58.6	867.5	39.8	83.4	543.3	2 437.6	1 493.4	3 912.4	257.5	(NA)	1 212.5	88	85
1976 ASM	(NA)	(NA)	(NA)	57.3	804.7	38.1	80.7	483.7	2 057.9	1 317.7	3 282.5	195.0	1 089.8	1 164.3	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	54.8	719.7	37.4	81.3	444.5	2 014.3	1 194.6	3 063.1	182.9	875.1	1 061.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	50.1	593.9	34.0	73.0	366.5	1 502.1	871.8	2 183.3	158.7	746.8	804.0	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	38.9	416.7	25.6	54.2	254.4	934.9	600.5	1 457.5	58.2	560.9	488.1	(NA)	(NA)
1972 Census	257	315	159	35.9	357.5	24.3	49.9	217.3	788.6	483.6	1 213.0	54.7	546.7	382.2	82	93
1971 ASM	(NA)	(NA)	(NA)	35.9	318.0	24.0	48.7	190.0	677.4	377.3	1 052.8	38.4	429.2	325.5	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	38.6	323.0	26.0	54.0	197.4	686.0	383.0	1 057.2	41.2	410.7	316.0	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	36.9	292.5	24.7	52.3	179.2	622.0	372.3	989.2	37.3	374.3	299.5	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	34.6	266.3	23.4	49.1	161.3	560.3	348.8	906.1	30.7	354.9	277.7	(NA)	(NA)
1967 Census	309	360	174	32.7	240.4	21.7	46.1	143.4	502.9	305.3	799.8	23.7	355.3	257.6	85	92
1966 ASM	(NA)	(NA)	(NA)	36.0	248.3	24.7	53.2	152.4	513.7	338.6	846.0	28.4	(NA)	243.5	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	34.9	234.2	24.4	52.9	146.3	506.6	328.7	816.2	24.6	(NA)	239.3	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	30.8	203.7	21.0	45.1	125.1	463.6	298.9	733.8	25.2	294.0	206.7	(NA)	(NA)
1963 Census	373	408	176	29.2	184.3	20.1	41.4	113.5	398.2	264.3	666.5	11.3	272.4	176.8	90	91
INDUSTRY 3534, ELEVATORS AND MOVING STAIRWAYS																
1977 Census	134	152	72	10.2	141.9	5.9	11.5	69.4	284.5	205.9	489.7	8.8	(NA)	119.1	96	93
1976 ASM	(NA)	(NA)	(NA)	8.8	119.2	5.2	10.4	58.1	220.5	175.9	428.9	21.9	154.3	111.0	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	10.7	127.1	6.0	12.0	60.6	239.4	182.9	433.9	10.8	144.7	170.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	13.2	143.7	7.5	15.1	69.7	337.1	209.8	524.9	10.2	139.7	178.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	13.3	141.2	7.9	16.4	74.2	279.0	186.4	470.7	9.0	125.0	130.8	(NA)	(NA)
1972 Census	135	154	88	15.0	144.5	8.6	17.2	73.7	310.2	181.7	483.6	7.8	124.5	133.2	97	96
1971 ASM	(NA)	(NA)	(NA)	16.6	149.6	9.9	19.1	77.1	353.5	193.9	539.1	7.5	117.0	130.6	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	16.0	142.0	9.3	19.2	71.6	319.4	158.8	472.5	6.6	113.2	108.9	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	13.2	108.4	7.7	15.6	58.6	283.1	132.1	412.0	8.9	105.1	103.0	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	14.1	109.5	8.8	17.8	64.1	202.1	135.6	336.1	6.6	102.7	96.9	(NA)	(NA)
1967 Census	130	144	78	13.9	107.6	8.8	18.1	63.4	196.1	128.4	319.7	3.9	97.1	95.6	94	95
1966 ASM	(NA)	(NA)	(NA)	14.0	105.1	8.5	17.8	58.1	235.5	125.7	352.6	4.3	(NA)	92.5	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	13.4	99.6	8.1	17.1	55.2	217.8	120.8	339.1	11.3	(NA)	74.5	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	13.4	95.3	8.1	15.8	50.0	234.1	123.2	347.4	5.2	72.5	74.3	(NA)	(NA)
1963 Census	126	142	74	12.4	88.4	7.4	15.5	49.6	201.5	114.7	318.6	3.3	67.6	66.0	97	95

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3535, CONVEYORS AND CONVEYING EQUIPMENT																
1977 Census--	572	617	295	33.0	477.8	19.2	38.6	227.3	1 021.7	901.5	1 902.9	34.8	(NA)	364.9	90	87
1976 ASM----	(NA)	(NA)	(NA)	28.8	384.6	16.1	32.5	176.5	825.0	681.8	1 508.1	34.3	307.2	299.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	30.1	364.2	17.0	33.9	166.7	755.7	680.0	1 450.7	29.8	287.0	295.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	31.0	368.2	18.2	36.6	179.2	747.7	625.7	1 336.9	34.9	247.9	276.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	30.8	336.6	18.9	37.6	169.5	638.2	544.4	1 163.9	21.4	235.2	187.0	(NA)	(NA)
1972 Census--	457	494	243	27.2	275.5	16.4	32.6	138.9	540.1	431.0	968.0	13.2	231.7	152.3	90	88
1971 ASM----	(NA)	(NA)	(NA)	25.2	231.5	15.1	30.3	115.9	462.6	388.9	840.2	14.6	194.4	151.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	27.6	244.2	16.8	34.3	126.6	446.6	403.2	856.2	16.0	186.6	140.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.2	243.8	17.0	36.2	127.7	468.6	379.3	836.4	20.1	160.2	149.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	26.7	217.4	16.1	33.7	111.4	413.1	336.3	752.9	10.4	143.1	124.1	(NA)	(NA)
1967 Census--	416	445	216	27.4	213.3	16.8	35.0	112.0	415.8	353.4	763.0	13.6	141.6	129.2	85	83
1966 ASM----	(NA)	(NA)	(NA)	25.8	201.1	16.3	34.8	110.6	386.0	345.6	725.4	12.3	(NA)	119.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	25.0	182.0	15.3	32.5	97.5	351.3	319.6	655.5	9.0	(NA)	106.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	22.2	161.7	13.7	29.3	85.2	306.6	261.1	567.1	8.0	116.1	85.2	(NA)	(NA)
1963 Census--	428	454	175	20.8	140.6	12.6	26.3	74.0	270.5	231.1	494.6	6.1	111.3	79.3	82	83
INDUSTRY 3536, HOISTS, CRANES, AND MONORAILS																
1977 Census--	231	242	121	15.8	210.5	10.6	20.6	122.0	453.2	387.0	836.0	17.9	(NA)	203.6	87	76
1976 ASM----	(NA)	(NA)	(NA)	16.6	224.9	11.1	21.3	136.1	470.9	391.8	870.6	16.5	204.7	223.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.1	212.6	11.4	22.6	125.5	416.9	368.2	780.7	23.5	191.3	235.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	17.5	197.8	11.7	23.4	121.5	388.9	332.1	674.3	13.8	181.4	229.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	17.1	179.4	11.4	23.0	110.8	303.0	282.5	568.5	13.8	183.9	156.6	(NA)	(NA)
1972 Census--	176	188	82	16.3	160.9	10.7	20.8	96.2	274.7	251.7	527.3	13.8	177.5	127.3	78	84
1971 ASM----	(NA)	(NA)	(NA)	15.8	138.8	10.3	19.2	83.5	246.2	216.7	453.9	8.3	153.5	130.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.7	161.4	12.5	24.6	100.8	309.4	230.2	526.8	10.2	148.0	135.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	18.1	153.8	12.7	25.7	99.8	289.8	236.3	502.6	8.9	137.5	115.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	17.7	148.0	12.3	25.0	95.4	261.0	230.8	481.8	12.5	132.0	116.0	(NA)	(NA)
1967 Census--	139	141	71	16.8	134.3	11.6	24.1	88.0	241.6	202.1	444.4	11.3	119.6	96.2	78	83
1966 ASM----	(NA)	(NA)	(NA)	16.5	130.5	11.7	25.2	86.1	236.7	205.2	437.3	10.1	(NA)	99.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	10.3	76.4	7.5	16.0	50.7	144.8	132.9	270.2	4.6	(NA)	56.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	9.9	72.2	7.1	15.3	46.3	119.1	119.4	237.7	3.2	75.9	46.6	(NA)	(NA)
1963 Census--	120	120	56	9.6	64.3	6.8	14.0	41.4	112.3	110.9	220.0	2.6	73.4	45.4	80	70
INDUSTRY 3537, INDUSTRIAL TRUCKS AND TRACTORS																
1977 Census--	450	475	170	28.8	427.3	19.4	36.7	252.2	876.7	1 045.2	1 920.1	48.3	(NA)	466.8	94	95
1976 ASM----	(NA)	(NA)	(NA)	23.3	315.6	15.4	30.1	183.5	571.8	750.1	1 303.8	26.1	398.5	386.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	25.7	319.0	16.7	31.3	184.2	546.0	716.1	1 294.1	44.9	386.0	371.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	32.2	373.1	22.1	43.5	225.2	749.1	845.0	1 531.9	51.1	361.0	444.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	28.9	308.1	20.1	39.5	194.6	629.4	676.1	1 273.8	24.2	313.5	327.6	(NA)	(NA)
1972 Census--	383	380	135	25.8	259.5	16.8	32.9	148.3	524.7	519.5	1 035.4	19.7	301.7	262.1	96	91
1971 ASM----	(NA)	(NA)	(NA)	25.7	219.0	16.2	30.4	119.7	460.6	424.8	880.6	29.4	275.9	238.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	28.1	225.0	17.6	34.1	127.3	418.3	482.7	911.5	43.0	299.4	246.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.4	243.2	18.3	37.8	143.5	522.6	503.3	985.3	33.3	200.9	259.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	26.4	204.2	17.0	34.1	116.9	409.2	412.8	814.4	19.3	176.0	201.2	(NA)	(NA)
1967 Census--	337	351	140	27.0	199.7	17.7	36.5	115.6	408.6	381.7	778.0	23.9	160.0	193.4	93	86
1966 ASM----	(NA)	(NA)	(NA)	26.3	189.9	17.8	37.9	116.8	404.9	420.0	792.1	18.4	(NA)	184.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	21.5	152.6	14.2	31.0	92.3	321.2	318.9	627.7	11.6	(NA)	131.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	19.9	130.8	15.0	28.1	76.2	274.6	266.9	533.0	9.4	128.4	117.9	(NA)	(NA)
1963 Census--	304	314	108	17.6	110.4	11.5	23.8	64.5	233.1	215.5	447.0	6.7	119.3	97.6	90	81

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3531, CONSTRUCTION MACHINERY											
1977 Census--	16 398	(NA)	71	1 913	8.02	54	74	(NA)	36 988	44	27.00
1976 ASM----	14 633	21 879	70	1 910	7.24	55	76	30	32 080	45	23.77
1975 ASM----	13 770	17 713	72	1 985	6.59	56	76	26	30 744	44	21.41
1974 ASM----	12 836	14 824	73	2 032	5.99	56	78	25	28 716	44	19.11
1973 ASM----	11 648	13 297	73	2 037	5.39	51	75	27	24 726	47	16.40
1972 Census--	10 913	13 757	73	2 010	5.05	50	74	30	23 398	46	15.85
1971 ASM----	9 979	(NA)	71	1 938	4.73	51	76	(NA)	19 656	50	14.08
1970 ASM----	9 094	(NA)	72	1 976	4.25	52	77	(NA)	17 983	50	12.55
1969 ASM----	8 705	(NA)	74	2 010	4.01	52	76	(NA)	17 774	48	11.94
1968 ASM----	8 069	(NA)	73	1 969	3.78	49	74	(NA)	16 808	48	11.60
1967 Census--	7 433	(NA)	74	1 965	3.47	50	74	(NA)	15 450	48	10.61
1966 ASM----	7 417	(NA)	75	2 093	3.28	52	76	(NA)	15 517	47	9.75
1965 ASM----	6 995	(NA)	74	2 048	3.17	52	76	(NA)	14 362	48	9.38
1964 ASM----	6 793	(NA)	74	2 051	3.06	52	76	(NA)	13 672	49	8.94
1963 Census--	6 542	(NA)	73	2 030	2.97	52	77	(NA)	12 452	52	8.37
INDUSTRY 3532, MINING MACHINERY											
1977 Census--	13 573	(NA)	64	1 956	6.81	51	72	(NA)	32 489	41	25.64
1976 ASM----	12 862	13 404	68	2 000	5.87	57	78	22	26 799	47	19.69
1975 ASM----	12 445	13 176	69	1 970	5.67	55	76	22	29 918	41	21.99
1974 ASM----	10 861	10 853	69	1 965	4.93	53	76	23	25 260	42	16.57
1973 ASM----	10 097	11 146	67	1 967	4.57	49	75	28	21 160	47	15.92
1972 Census--	9 276	11 037	67	1 916	4.33	50	76	30	18 460	50	14.35
1971 ASM----	8 592	10 188	67	1 882	4.04	49	72	26	19 517	44	15.45
1970 ASM----	8 227	9 821	68	1 935	3.74	49	75	31	16 348	50	12.26
1969 ASM----	7 846	9 381	65	1 950	3.71	49	77	33	13 930	56	10.97
1968 ASM----	7 215	11 306	72	1 944	3.48	50	75	38	12 852	56	9.15
1967 Census--	7 221	9 000	68	1 993	3.22	50	75	31	14 207	50	10.38
1966 ASM----	7 180	(NA)	70	2 065	3.15	54	79	(NA)	14 180	50	9.75
1965 ASM----	6 802	(NA)	68	2 021	3.09	52	77	(NA)	13 261	51	9.51
1964 ASM----	6 609	(NA)	69	1 992	2.94	50	76	(NA)	12 898	51	9.31
1963 Census--	6 479	(NA)	69	1 974	2.90	48	75	(NA)	12 745	50	9.24
INDUSTRY 3533, OIL FIELD MACHINERY											
1977 Census--	14 795	(NA)	67	2 095	6.51	38	60	(NA)	41 574	35	20.22
1976 ASM----	14 043	19 019	66	2 118	5.99	40	64	33	35 914	39	25.50
1975 ASM----	13 133	15 968	68	2 173	5.48	38	62	28	36 757	35	24.77
1974 ASM----	11 854	14 906	67	2 147	5.02	39	67	34	29 982	39	20.57
1973 ASM----	10 712	14 419	65	2 117	4.69	41	69	38	24 033	44	17.24
1972 Census--	9 958	15 228	67	2 053	4.35	38	67	45	21 966	45	15.80
1971 ASM----	8 857	(NA)	66	2 029	3.90	35	66	(NA)	18 869	46	13.90
1970 ASM----	8 367	(NA)	67	2 076	3.65	36	66	(NA)	17 772	47	12.70
1969 ASM----	7 926	(NA)	66	2 117	3.42	37	67	(NA)	16 856	47	11.89
1968 ASM----	7 696	(NA)	67	2 098	3.26	38	67	(NA)	16 193	47	11.41
1967 Census--	7 351	(NA)	66	2 124	3.11	38	68	(NA)	15 379	47	10.90
1966 ASM----	6 897	(NA)	68	2 153	2.86	40	69	(NA)	14 269	48	9.65
1965 ASM----	6 710	(NA)	69	2 168	2.76	40	68	(NA)	14 515	46	9.57
1964 ASM----	6 613	(NA)	68	2 147	2.77	40	68	(NA)	15 051	43	10.27
1963 Census--	6 311	(NA)	68	2 059	2.74	39	67	(NA)	13 636	46	9.61
INDUSTRY 3534, ELEVATORS AND MOVING STAIRWAYS											
1977 Census--	13 884	(NA)	57	1 966	6.01	42	71	(NA)	27 831	49	24.65
1976 ASM----	13 545	17 534	59	2 000	5.58	41	68	35	25 056	54	21.20
1975 ASM----	11 878	13 523	56	2 000	5.05	42	71	33	22 373	53	19.95
1974 ASM----	10 886	10 583	56	2 013	4.61	39	67	26	25 537	42	22.32
1973 ASM----	10 616	9 398	59	2 075	4.52	39	69	26	20 977	50	17.01
1972 Census--	9 633	8 300	57	2 000	4.28	37	67	25	20 560	46	16.03
1971 ASM----	9 012	7 048	59	1 929	4.03	35	63	21	21 295	42	16.50
1970 ASM----	8 875	7 075	58	2 064	3.72	33	63	23	19 962	44	16.63
1969 ASM----	8 212	7 962	58	2 025	3.75	32	58	25	21 446	38	18.14
1968 ASM----	7 765	7 283	62	2 022	3.60	40	72	30	14 333	54	11.35
1967 Census--	7 741	6 985	63	2 056	3.50	40	73	30	14 107	54	10.83
1966 ASM----	7 507	(NA)	60	2 094	3.26	35	65	(NA)	16 821	44	13.23
1965 ASM----	7 432	(NA)	60	2 111	3.22	35	64	(NA)	16 253	45	12.73
1964 ASM----	7 111	5 410	60	1 950	3.16	35	62	20	17 470	40	14.61
1963 Census--	7 129	5 451	59	2 094	3.20	36	63	21	16 250	43	13.00

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3535, CONVEYORS AND CONVEYING EQUIPMENT										
1977 Census--	14 498	(NA)	58	2 004	5.88	47	72	(NA)	31 000	46	26.47
1976 ASM----	13 354	10 666	55	2 018	5.43	45	70	20	28 645	46	25.38
1975 ASM----	12 099	9 534	56	1 994	4.91	46	71	19	25 106	48	22.29
1974 ASM----	11 877	7 996	58	2 010	4.89	46	74	18	24 119	49	20.42
1973 ASM----	10 928	7 636	61	1 989	4.50	46	75	20	20 720	52	16.97
1972 Census--	10 128	8 518	60	1 987	4.26	44	72	23	19 856	51	16.56
1971 ASM----	9 186	17 031	59	2 006	3.82	46	73	51	18 357	50	15.26
1970 ASM----	8 847	6 760	60	2 041	3.69	47	75	21	16 181	54	13.02
1969 ASM----	8 645	13 273	60	2 129	3.52	45	74	44	16 546	52	12.88
1968 ASM----	8 142	5 359	60	2 093	3.30	44	73	19	15 471	52	12.25
1967 Census--	7 784	12 967	61	2 083	3.20	46	74	46	15 175	51	11.88
1966 ASM----	7 794	(NA)	63	2 134	3.17	47	75	(NA)	14 961	52	11.09
1965 ASM----	7 280	(NA)	61	2 124	3.00	48	76	(NA)	14 052	51	10.80
1964 ASM----	7 283	5 229	61	2 138	2.90	46	74	20	13 810	52	10.46
1963 Census--	6 759	5 350	60	2 087	2.81	46	75	22	13 004	51	10.28
	INDUSTRY 3536, HOISTS, CRANES, AND MONORAILS										
1977 Census--	13 346	(NA)	67	1 939	5.92	46	71	(NA)	28 737	46	21.99
1976 ASM----	13 548	12 331	66	1 918	6.38	45	70	23	28 367	47	22.10
1975 ASM----	12 432	11 187	66	1 982	5.55	47	74	24	24 380	50	18.44
1974 ASM----	11 302	10 365	66	2 000	5.19	49	78	26	22 222	50	16.61
1973 ASM----	10 491	10 754	66	2 017	4.81	49	81	32	17 719	59	13.17
1972 Census--	9 871	10 889	65	1 943	4.62	47	78	33	16 852	58	13.20
1971 ASM----	8 069	482	806	74	1.86	113	177	3	4 854	166	8.10
1970 ASM----	8 631	7 914	66	1 968	4.09	43	74	28	16 545	52	12.57
1969 ASM----	8 497	7 596	70	2 023	3.88	47	77	27	14 906	57	10.49
1968 ASM----	8 361	7 457	69	2 032	3.81	47	78	27	14 745	56	10.44
1967 Census--	7 994	7 119	69	2 077	3.65	45	75	26	14 380	55	10.02
1966 ASM----	7 909	(NA)	70	2 153	3.41	48	76	(NA)	14 345	55	9.39
1965 ASM----	7 417	(NA)	72	2 133	3.16	49	77	(NA)	14 058	52	9.05
1964 ASM----	7 292	7 666	71	2 154	3.02	50	80	31	12 030	60	7.78
1963 Census--	6 697	7 645	70	2 058	2.95	50	79	33	11 697	57	8.02
	INDUSTRY 3537, INDUSTRIAL TRUCKS AND TRACTORS										
1977 Census--	14 823	(NA)	67	1 894	6.87	54	76	(NA)	30 414	48	23.88
1976 ASM----	13 545	17 103	66	1 954	6.09	57	81	30	24 540	55	18.99
1975 ASM----	12 412	15 019	64	1 874	5.88	55	79	29	21 245	58	17.44
1974 ASM----	11 586	11 211	68	1 968	5.17	55	79	23	23 263	49	17.22
1973 ASM----	10 660	10 847	69	1 965	4.92	53	77	24	21 778	48	15.93
1972 Census--	10 058	11 693	65	1 958	4.50	50	75	29	20 337	49	15.94
1971 ASM----	8 521	10 735	63	1 876	3.93	48	73	31	17 922	47	15.15
1970 ASM----	8 007	10 654	62	1 937	3.73	52	77	32	14 886	53	12.26
1969 ASM----	8 563	7 073	64	2 065	3.79	51	75	20	18 401	46	13.82
1968 ASM----	7 734	6 666	64	2 005	3.42	50	75	21	15 500	49	12.00
1967 Census--	7 396	5 925	65	2 062	3.16	49	74	20	15 133	48	11.19
1966 ASM----	7 220	(NA)	67	2 129	3.08	53	76	(NA)	15 395	46	10.68
1965 ASM----	7 097	(NA)	66	2 183	2.97	50	75	(NA)	14 939	47	10.36
1964 ASM----	6 572	6 452	75	1 873	2.71	50	74	24	13 798	47	9.77
1963 Census--	6 272	6 778	65	2 069	2.71	48	72	26	13 244	47	9.79

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[3] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3531, CONSTRUCTION MACHINERY														
United States	-	**922**	**446**	**155.3**	**2 547.1**	**111.2**	**212.7**	**1 706.1**	**5 744.3**	**6 822.6**	**12 628.7**	**496.3**	**133.8**	**3 130.7**
New England Division:														
Maine	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	E3	21	6	0.4	5.2	0.3	0.5	3.0	10.3	7.9	18.2	0.7	(NA)	(D)
Connecticut	-	9	5	0.3	4.1	0.2	0.4	2.2	9.5	7.9	17.3	0.2	0.2	4.0
Middle Atlantic Division:														
New York	-	43	14	2.1	25.5	1.6	3.0	17.1	35.7	78.4	122.6	1.7	1.8	29.8
New Jersey	-	17	5	0.6	8.3	0.3	0.7	4.1	13.6	21.8	35.5	0.8	0.5	14.1
Pennsylvania	-	38	25	8.2	125.8	6.0	11.1	86.2	243.4	259.9	505.7	(D)	6.3	170.1
East North Central Division:														
Ohio	-	75	44	15.2	257.3	10.5	20.0	168.2	518.9	606.6	1 120.6	26.9	14.1	282.8
Indiana	-	22	14	3.7	56.6	2.5	5.0	37.6	155.5	131.7	286.5	6.8	4.3	88.8
Illinois	-	70	41	46.8	850.8	35.1	65.3	597.2	2 028.0	2 883.9	4 775.8	(D)	45.6	1 257.1
Michigan	-	32	19	5.7	87.1	4.2	7.6	59.0	220.4	281.6	514.3	8.1	5.9	123.2
Wisconsin	-	53	38	14.8	228.2	10.6	20.8	154.7	627.0	521.5	1 145.6	41.9	11.0	236.6
West North Central Division:														
Minnesota	-	38	21	5.6	76.8	3.9	7.9	50.7	165.9	178.6	337.0	6.3	5.6	88.0
Iowa	-	36	23	18.8	351.7	13.6	27.1	244.8	782.0	880.4	1 676.0	87.9	12.1	314.2
Missouri	-	15	9	1.2	17.8	0.8	1.6	10.3	31.3	41.4	74.2	1.3	1.4	29.2
North Dakota	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Dakota	-	5	3	0.2	2.4	0.1	0.3	1.5	6.3	5.2	11.4	(D)	(NA)	(NA)
Nebraska	-	6	3	0.5	5.6	0.3	0.7	3.3	11.2	9.7	20.8	0.5	0.3	5.5
Kansas	-	16	8	1.5	20.9	1.0	1.9	11.7	44.8	60.4	106.0	2.9	(NA)	(D)
South Atlantic Division:														
Maryland	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	8	4	0.9	12.7	0.6	1.2	7.6	40.9	36.3	73.3	1.2	(NA)	(D)
West Virginia	E1	7	2	0.2	3.2	0.2	0.4	2.1	7.5	9.3	14.8	0.4	(NA)	(NA)
North Carolina	-	12	6	0.6	7.7	0.4	0.7	3.4	11.9	16.3	30.2	(D)	0.2	3.8
South Carolina	-	13	7	1.7	21.1	1.3	2.4	12.8	49.2	60.9	104.6	(D)	(NA)	(D)
Georgia	-	13	4	0.8	12.8	0.7	1.4	9.9	23.4	30.7	55.1	1.0	(NA)	(D)
Florida	E2	20	2	0.2	2.9	0.2	0.3	1.5	6.4	3.9	10.0	0.7	0.4	5.0
East South Central Division:														
Kentucky	-	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	11	7	1.2	13.1	0.7	1.4	8.1	27.5	34.5	61.3	1.0	0.5	10.2
Alabama	-	16	8	1.2	17.1	0.9	1.8	10.0	36.8	45.1	80.3	4.0	0.7	11.0
Mississippi	E7	11	3	0.2	2.1	0.1	0.2	1.4	4.4	4.1	7.8	(D)	(NA)	(D)
West South Central Division:														
Louisiana	E1	13	5	0.4	5.3	0.3	0.6	3.8	11.2	7.4	18.0	0.7	0.6	13.6
Oklahoma	-	26	18	4.5	68.2	2.6	5.3	35.8	148.2	221.6	352.8	5.5	3.8	78.6
Texas	-	61	32	4.4	56.8	3.3	6.8	36.5	109.4	139.9	247.7	6.5	4.8	82.7
Mountain Division:														
Idaho	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Colorado	-	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Utah	E1	5	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	31	14	2.0	32.4	1.4	2.6	20.8	72.7	65.0	129.0	4.7	1.5	23.9
Oregon	E1	32	8	1.1	18.8	0.7	1.3	10.9	30.4	29.8	56.1	1.1	(NA)	(D)
California	-	90	33	5.6	87.1	3.9	6.5	52.9	159.6	163.8	324.2	10.1	4.3	105.3
INDUSTRY 3532, MINING MACHINERY														
United States	-	**344**	**168**	**31.4**	**425.9**	**20.3**	**39.7**	**262.9**	**1 018.8**	**1 021.9**	**1 996.7**	**67.0**	**21.3**	**363.2**
New England Division:														
New Hampshire	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	8	2	0.2	2.1	0.1	0.2	1.4	4.1	3.1	7.2	0.5	(NA)	(NA)
New Jersey	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	38	23	5.8	83.2	3.6	7.1	53.8	197.0	250.5	430.8	8.7	(NA)	(D)
East North Central Division:														
Ohio	-	26	15	3.4	39.7	2.1	4.0	24.3	97.4	86.4	182.9	5.6	2.2	42.0
Illinois	-	17	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	11.9
Michigan	-	6	4	0.4	4.4	0.2	0.4	2.7	12.1	9.2	20.7	0.9	0.3	6.3
Wisconsin	-	6	5	2.4	37.6	1.5	2.9	21.6	80.4	56.0	133.9	(D)	2.8	45.5
West North Central Division:														
Minnesota	E1	8	4	0.3	3.8	0.2	0.4	2.6	8.0	8.8	16.3	0.8	(NA)	(NA)
Missouri	-	10	6	0.5	7.5	0.3	0.6	3.6	25.9	14.9	39.3	0.9	(NA)	(NA)
Kansas	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	34	16	2.1	25.5	1.5	2.8	15.3	50.2	99.3	152.4	3.8	(NA)	(D)
West Virginia	-	53	19	2.8	36.4	2.1	4.1	23.4	90.1	79.2	182.8	10.5	1.9	40.7
South Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E1	9	4	0.2	2.2	0.1	0.3	1.8	4.9	4.4	9.1	0.5	(NA)	(NA)
East South Central Division:														
Kentucky	-	20	11	2.0	24.1	1.4	2.5	15.5	72.1	74.1	136.5	4.0	(NA)	(D)
Alabama	-	4	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3532, MINING MACHINERY—Con.														
West South Central Division:														
Oklahoma	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	12	7	0.7	9.0	0.6	1.2	6.2	31.3	33.0	64.9	4.8	(NA)	(D)
Mountain Division:														
Colorado	-	11	7	1.9	27.1	1.1	2.1	16.5	63.2	32.0	98.2	1.8	2.0	44.6
New Mexico	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	E1	7	3	0.4	6.2	0.1	0.3	1.9	13.2	17.5	35.6	0.3	(NA)	(NA)
Oregon	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E5	17	7	0.6	9.8	0.3	0.7	4.5	24.1	19.0	42.3	(D)	(NA)	(D)
INDUSTRY 3533, OIL FIELD MACHINERY														
United States	-	**478**	**247**	**58.6**	**867.5**	**39.8**	**83.4**	**543.3**	**2 437.6**	**1 483.4**	**3 912.4**	**257.5**	**35.9**	**788.6**
Middle Atlantic Division:														
Pennsylvania	-	10	8	2.3	34.5	1.4	2.8	19.9	62.2	46.0	116.7	9.5	(NA)	(D)
East North Central Division:														
Ohio	E1	7	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Kansas	-	11	5	0.7	7.9	0.6	1.0	5.0	19.6	9.2	27.8	1.3	(NA)	(NA)
South Atlantic Division:														
West Virginia	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Mississippi	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Louisiana	-	37	20	1.7	25.4	1.3	3.0	17.2	66.8	33.2	94.6	23.8	1.7	29.3
Oklahoma	-	58	28	5.6	71.0	4.2	7.9	47.2	198.8	149.0	341.9	12.0	3.8	66.9
Texas	-	237	133	39.8	594.2	26.9	57.1	373.5	1 832.5	1 011.5	2 659.5	158.7	(NA)	(D)
Mountain Division:														
Wyoming	E1	10	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Mexico	E2	9	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	47	31	6.6	108.6	4.1	9.1	65.0	377.1	150.0	497.2	41.1	(NA)	(D)
INDUSTRY 3534, ELEVATORS AND MOVING STAIRWAYS														
United States	-	**152**	**72**	**10.2**	**141.9**	**5.9**	**11.5**	**69.4**	**264.5**	**205.9**	**489.7**	**8.8**	**15.0**	**310.2**
New England Division:														
Massachusetts	E7	6	3	0.3	3.5	0.2	0.3	2.2	5.4	3.6	9.1	0.2	(NA)	(D)
Middle Atlantic Division:														
New York	E1	11	6	1.3	19.9	0.8	1.5	10.8	26.2	14.0	39.9	(D)	(NA)	(D)
New Jersey	-	9	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	10	6	0.8	7.7	0.4	0.7	3.9	27.9	16.7	44.5	0.4	(NA)	(D)
East North Central Division:														
Ohio	-	13	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	16.8
Indiana	-	6	4	1.0	13.1	0.5	1.1	5.8	25.3	26.5	50.6	0.5	1.1	25.4
Illinois	E1	17	8	0.6	8.5	0.4	0.8	5.1	14.2	21.3	34.1	1.1	1.3	18.1
West North Central Division:														
Missouri	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Florida	E1	11	5	0.4	5.3	0.2	0.4	2.5	9.5	6.8	16.0	0.4	0.3	5.3
East South Central Division:														
Kentucky	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Utah	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	19	8	0.9	11.4	0.7	1.3	6.9	9.2	32.7	44.4	0.3	1.1	19.4

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3535, CONVEYORS AND CONVEYING EQUIPMENT														
United States	-	**617**	**295**	**33.0**	**477.8**	**19.2**	**38.6**	**227.3**	**1 021.7**	**901.5**	**1 902.9**	**34.8**	**27.2**	**540.1**
New England Division:														
Massachusetts	E1	13	3	0.3	4.5	0.2	0.4	2.3	8.9	6.1	14.6	0.2	0.3	4.9
Middle Atlantic Division:														
New York	-	22	7	1.0	14.1	0.5	0.9	5.8	27.7	21.4	48.1	0.8	1.4	28.7
New Jersey	-	34	17	1.5	21.4	0.9	1.7	8.3	61.2	42.3	86.8	1.0	1.2	28.6
Pennsylvania	-	35	21	3.7	53.3	2.1	4.1	25.8	118.9	71.0	185.7	4.4	3.6	82.6
East North Central Division:														
Ohio	-	44	27	2.9	37.2	1.8	3.8	20.2	92.5	65.1	154.9	4.0	2.2	39.6
Indiana	-	19	9	0.6	9.0	0.3	0.7	4.0	17.1	14.4	30.9	0.5	(NA)	(NA)
Illinois	-	51	18	2.2	34.6	1.0	2.0	12.7	84.4	87.2	169.3	4.1	2.8	59.7
Michigan	-	72	35	4.4	61.7	2.4	4.9	35.1	173.8	158.9	333.2	3.9	3.9	97.6
Wisconsin	-	17	10	0.7	10.7	0.5	1.0	5.7	26.3	23.0	48.6	0.5	0.6	14.0
West North Central Division:														
Minnesota	-	20	9	0.9	12.0	0.5	0.9	5.9	23.4	22.6	46.0	(D)	0.7	12.9
Iowa	-	12	7	0.6	7.7	0.4	0.8	4.9	15.1	15.0	30.3	0.9	(NA)	(D)
Missouri	-	17	7	0.8	12.4	0.5	0.9	4.8	21.6	22.1	44.2	0.6	(NA)	(D)
South Dakota	-	3	3	0.4	4.7	0.3	0.6	3.6	9.5	7.5	16.9	(D)	(NA)	(D)
Kansas	-	11	8	1.2	22.1	0.6	1.2	6.6	39.8	38.7	75.3	1.6	(NA)	(D)
South Atlantic Division:														
Maryland	-	7	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	11	6	0.8	10.4	0.6	1.2	6.5	15.8	23.9	39.9	0.4	(NA)	(D)
West Virginia	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	5	3	0.2	3.0	0.1	0.3	1.7	6.2	5.3	11.3	0.1	(NA)	(NA)
South Carolina	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	E1	10	4	0.3	4.8	0.2	0.4	2.3	11.3	11.9	23.0	0.3	0.2	5.4
Florida	E1	17	9	0.5	6.2	0.3	0.7	3.5	11.5	9.6	21.6	0.4	0.3	3.4
East South Central Division:														
Kentucky	-	13	12	2.0	26.0	1.2	2.3	13.3	59.8	47.9	106.1	2.3	1.3	25.4
Tennessee	E2	11	5	0.3	3.1	0.2	0.3	1.5	5.9	8.4	14.3	0.2	0.3	4.5
Alabama	-	7	4	0.6	6.9	0.4	0.7	3.4	18.5	27.1	44.4	0.4	(NA)	(D)
Mississippi	-	7	6	0.9	10.1	0.6	1.3	6.1	23.2	23.1	46.1	1.3	(NA)	(D)
West South Central Division:														
Arkansas	-	8	3	0.4	4.4	0.3	0.7	2.7	9.3	8.7	18.0	0.2	(NA)	(D)
Louisiana	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	31	18	2.0	22.1	1.2	2.5	11.9	41.1	47.2	89.5	2.1	1.4	17.5
Mountain Division:														
Colorado	E1	10	4	0.3	4.9	0.2	0.4	2.2	10.9	5.6	17.0	0.2	0.4	6.9
Pacific Division:														
Oregon	E1	9	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E1	60	20	1.7	25.7	1.2	2.2	15.7	49.3	42.6	91.0	1.7	1.8	41.8
INDUSTRY 3536, HOISTS, CRANES, AND MONORAILS														
United States	-	**242**	**121**	**15.8**	**210.5**	**10.6**	**20.6**	**122.0**	**453.2**	**387.0**	**836.0**	**17.9**	**16.3**	**274.7**
Middle Atlantic Division:														
New York	-	10	3	0.7	8.7	0.4	0.9	4.8	16.5	10.1	26.3	(D)	0.8	12.0
Pennsylvania	-	13	11	1.2	16.7	0.8	1.7	10.2	39.4	41.2	78.5	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	28	19	3.3	47.5	2.1	4.2	25.4	80.8	78.0	167.0	3.0	2.9	45.6
Indiana	-	12	6	0.7	9.3	0.4	0.8	5.0	16.2	16.0	31.6	0.2	0.3	4.2
Illinois	E1	11	6	1.0	13.6	0.7	1.2	7.3	24.8	19.1	42.0	(D)	(NA)	(D)
Michigan	-	15	6	1.0	14.2	0.7	1.2	7.8	22.4	30.0	54.3	0.6	(NA)	(D)
Wisconsin	-	14	8	0.8	11.2	0.6	1.1	7.9	39.7	21.2	54.9	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	9	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Iowa	E1	3	3	0.3	3.7	0.2	0.3	1.8	8.3	8.2	16.4	0.2	(NA)	(D)
South Atlantic Division:														
Virginia	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	6	4	0.5	7.3	0.4	0.7	4.0	22.2	10.5	31.8	(D)	(NA)	(D)
Texas	E1	17	10	0.9	11.4	0.7	1.3	7.3	24.4	22.0	45.7	0.5	0.5	11.2
Pacific Division:														
Washington	E1	9	5	0.5	7.0	0.3	0.6	4.4	13.1	11.9	24.2	0.1	(NA)	(D)
California	E3	29	12	0.9	12.5	0.5	1.0	6.6	27.6	24.0	49.7	1.3	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3537, INDUSTRIAL TRUCKS AND TRACTORS														
United States	-	**475**	**170**	**28.8**	**427.3**	**19.4**	**36.7**	**252.2**	**676.7**	**1 045.2**	**1 920.1**	**48.3**	**25.8**	**524.7**
Middle Atlantic Division:														
New York	-	23	7	1.6	23.2	1.0	1.4	11.7	50.3	42.8	88.6	(D)	(NA)	(D)
New Jersey	E2	14	4	0.2	3.2	0.1	0.3	1.9	6.4	8.1	14.5	0.3	(NA)	(NA)
Pennsylvania	-	19	6	1.4	22.9	1.1	2.1	17.2	44.6	40.8	88.0	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	46	20	6.3	99.5	4.4	8.5	60.7	182.3	160.5	345.8	6.1	5.3	86.4
Indiana	-	16	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.9
Illinois	-	28	13	4.4	70.0	3.1	5.6	42.1	151.5	204.0	357.6	11.2	3.7	77.1
Michigan	-	45	13	2.9	47.9	1.8	3.4	28.4	107.6	148.4	264.0	4.3	3.3	94.5
Wisconsin	E1	18	7	0.3	4.1	0.2	0.4	2.4	7.2	11.3	18.2	0.3	(NA)	(D)
West North Central Division:														
Minnesota	-	17	8	0.7	9.7	0.4	0.8	5.7	14.2	21.1	37.2	0.5	0.4	10.6
Iowa	E5	7	3	0.3	3.6	0.2	0.4	1.9	5.1	8.1	13.3	(D)	0.3	4.6
Kansas	-	8	4	0.4	4.5	0.2	0.5	2.3	7.3	11.5	18.7	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	4.0
South Carolina	-	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	E3	7	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	E1	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	3.1
Mississippi	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	E1	32	11	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	5	3	0.2	3.3	0.1	0.3	1.7	6.3	6.1	11.9	(D)	(NA)	(NA)
Utah	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	13	6	0.3	5.0	0.2	0.4	2.7	9.2	9.6	18.9	0.3	(NA)	(NA)
Oregon	-	15	8	1.7	28.3	1.1	1.8	14.4	54.2	56.5	115.7	5.1	1.8	32.5
California	E1	55	21	2.0	24.2	1.3	2.4	13.9	44.8	54.7	98.7	1.8	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Construction machinery (SIC 3531)	Mining machinery (SIC 3532)	Oil field machinery (SIC 3533)	Elevator and moving stairways (SIC 3534)	Conveyors and conveying equipment (SIC 3535)	Hoists, cranes, and monorails (SIC 3536)	Industrial trucks and tractors (SIC 3537)
Primary product specialization ratio[1]	percent	91	88	88	96	90	87	94
Coverage ratio[2]	do	95	88	95	93	87	76	95
All establishments	number	922	344	478	152	617	242	475
With 1 to 19 employees	do	476	176	231	80	322	121	305
With 20 to 99 employees	do	231	100	143	49	214	84	118
With 100 employees or more	do	215	68	104	23	81	37	52
All employees, average for year	1,000	155.3	31.4	58.6	10.2	33.0	15.8	28.8
Payroll for year, all employees	mil. dol.	2 547.1	425.9	867.5	141.9	477.8	210.5	427.3
Production workers:								
Average for year	1,000	111.2	20.3	39.8	5.9	19.2	10.6	19.4
March	do	108.5	20.2	38.7	6.0	18.4	10.7	18.9
May	do	109.5	20.7	38.6	5.7	18.8	10.6	18.9
August	do	111.4	20.6	40.0	5.8	19.7	10.5	19.4
November	do	115.2	19.6	41.9	6.0	20.0	10.7	20.2
Hours	millions	212.7	39.7	83.4	11.5	38.6	20.6	36.7
January to March	do	51.8	10.3	20.4	2.9	9.1	5.2	9.1
April to June	do	53.1	10.4	20.9	2.8	9.5	5.1	9.1
July to September	do	52.1	9.5	20.8	2.8	9.8	5.1	8.9
October to December	do	55.7	9.5	21.4	3.1	10.1	5.2	9.6
Wages	mil. dol.	1 708.1	262.9	543.3	69.4	227.3	122.0	252.2
Cost of materials, etc.	do	6 822.6	1 021.9	1 493.4	205.9	901.5	387.0	1 045.2
Materials, parts, containers, etc., consumed	do	6 186.6	827.7	1 253.6	191.2	644.4	345.7	945.3
Resales	do	334.2	119.7	107.4	2.7	137.2	15.8	69.9
Fuels consumed	do	50.8	5.6	15.5	2.2	5.5	2.8	8.1
Purchased electric energy	do	69.2	11.0	24.5	3.8	8.9	4.7	10.3
Contract work	do	181.8	57.9	92.3	6.1	105.5	17.9	11.7
Value of shipments, including resales	do	12 628.7	1 996.7	3 912.4	489.7	1 902.9	836.0	1 920.1
Value of resales	do	496.2	170.2	148.3	3.6	161.7	22.8	103.6
Value added by manufacture	do	5 744.3	1 018.8	2 437.6	284.5	1 021.7	453.2	876.7
Manufacturers' inventories:								
Beginning of year	do	3 171.8	603.7	1 216.0	123.0	331.0	196.6	454.7
Finished products	do	924.7	258.5	516.6	29.6	69.5	42.1	126.1
Work in process	do	1 307.9	166.6	351.3	42.0	128.4	84.6	174.3
Materials, supplies, fuel, etc.	do	939.2	178.7	348.0	51.4	133.2	69.9	154.2
End of year	do	3 142.3	646.1	1 212.5	119.1	364.9	203.6	488.6
Finished products	do	858.6	303.3	542.1	27.2	77.8	41.4	121.0
Work in process	do	1 312.1	165.8	344.5	45.0	140.3	89.5	181.2
Materials, supplies, fuel, etc.	do	971.5	177.0	325.9	46.9	146.8	72.6	164.4
Capital expenditures for plant and equipment	do	509.8	72.6	272.4	9.5	40.9	19.5	58.1
New capital expenditures	do	498.3	67.0	257.5	8.8	34.8	17.9	48.3
New buildings and other structures	do	151.4	23.8	67.9	1.8	9.0	4.5	10.0
New machinery and equipment	do	346.8	43.2	189.7	7.1	25.8	13.3	38.3
Used capital expenditures	do	11.5	5.6	14.9	0.7	6.1	1.6	9.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Construction machinery (SIC 3531)		Mining machinery (SIC 3532)		Oil field machinery (SIC 3533)		Elevators and moving stairways (SIC 3534)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	16.4	3	3.0	13	6.6	14	(0.6)	16
Response coverage ratio[2] (percent)	76	(X)	68	(X)	81	(X)	60	(X)
Machinery	78.5	1	9.4	14	(28.1)	45	1.1	10
Response coverage ratio[2] (percent)	74	(X)	69	(X)	79	(X)	62	(X)
Cost of purchased communication services	23.1	9	(6.7)	17	13.0	4	1.5	10
Response coverage ratio[2] (percent)	62	(X)	61	(X)	67	(X)	60	(X)
Rental payments	50.1	3	11.2	6	27.7	2	4.2	12
Buildings and other structures	11.1	7	(2.8)	15	10.1	5	(2.5)	22
Machinery and equipment	39.0	3	8.3	5	17.7	2	1.7	5
Supplemental labor costs	614.3	1	88.2	2	165.5	2	25.4	4
Legal costs	193.6	1	34.6	1	72.3	1	12.0	3
Voluntary costs	420.7	1	53.6	4	93.2	3	13.4	6
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	1,150.8	1	144.1	4	300.5	2	69.8	5
New capital expenditures	150.4	2	24.9	5	61.1	2	(2.3)	33
Used capital expenditures	3.0	12	(3.7)	48	2.7	6	(0.1)	96
Retirements	17.1	2	2.6	12	4.3	3	1.0	7
End of year	1,287.2	1	170.1	3	360.0	2	71.1	5
Machinery and equipment:								
Beginning of year	2,279.0	1	279.4	3	796.8	2	91.5	4
New capital expenditures	347.1	2	45.7	6	186.6	3	(6.9)	17
Automobiles, trucks, etc., for highway use[3]	(4.3)	(A)	(2.2)	(A)	(5.7)	(A)	(0.1)	(A)
Computers and peripheral data processing equipment[3]	(5.2)	(A)	(1.0)	(A)	(1.0)	(A)	(D)	(A)
All other[3]	313.9	6	(36.4)	55	166.7	12	(D)	5
New machinery and equipment, n.s.k.[4]	(23.6)	85	(6.2)	(A)	(13.2)	(A)	(2.0)	(A)
Used capital expenditures	8.4	7	(5.6)	30	12.2	7	(0.1)	49
Retirements	97.6	1	11.7	5	49.8	1	2.8	5
End of year	2,537.0	1	318.9	3	945.8	2	95.7	4
Total gross value of depreciable assets:								
Beginning of year	3,429.9	1	423.6	3	1,097.4	2	161.3	4
New capital expenditures	497.5	2	70.6	5	247.8	2	(9.2)	21
Used capital expenditures	11.5	8	(9.3)	34	14.9	6	(0.2)	65
Retirements	114.7	1	14.3	5	54.2	1	3.9	6
End of year	3,824.2	1	489.1	3	1,305.9	2	166.8	5
Depreciation charges during 1977	256.8	1	29.7	3	94.3	2	8.2	3
Buildings and other structures	45.7	1	5.8	5	18.4	2	2.1	4
Machinery and equipment	211.1	1	23.9	3	75.9	2	6.1	4

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Conveyors and conveying equipment (SIC 3535)		Hoists, cranes, and monorails (SIC 3536)		Industrial trucks and tractors (SIC 3537)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(2.4)	18	(0.8)	23	4.8	5
Response coverage ratio[2] (percent)	59	(X)	67	(X)	61	(X)
Machinery	(5.1)	(A)	(1.9)	18	10.9	4
Response coverage ratio[2] (percent)	56	(X)	64	(X)	67	(X)
Cost of purchased communication services	(8.3)	(A)	(3.1)	23	5.1	10
Response coverage ratio[2] (percent)	66	(X)	72	(X)	65	(X)
Rental payments	11.3	11	6.2	10	12.4	6
Buildings and other structures	(6.5)	15	(3.0)	18	(4.5)	17
Machinery and equipment	4.8	13	3.2	13	7.9	5
Supplemental labor costs	81.0	2	37.4	3	87.4	2
Legal costs	41.0	2	16.8	3	35.8	2
Voluntary costs	40.0	4	20.6	4	51.6	2
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	145.0	5	(59.6)	20	169.5	4
New capital expenditures	9.0	14	(5.0)	25	(13.4)	27
Used capital expenditures	1.9	14	(0.8)	59	(1.9)	70
Retirements	3.5	6	(0.3)	(A)	4.4	5
End of year	152.4	9	(65.0)	17	180.3	4
Machinery and equipment:						
Beginning of year	178.0	4	115.3	6	289.9	3
New capital expenditures	24.2	5	12.9	14	39.2	6
Automobiles, trucks, etc., for highway use[3]	(2.6)	(A)	(0.6)	(A)	(1.0)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(Z)	(A)	(0.4)	(A)
All other[3]	(D)	(A)	(12.0)	(A)	(31.6)	63
New machinery and equipment, n.s.k.[4]	(4.4)	(A)	(0.3)	(A)	6.2	(A)
Used capital expenditures	3.5	8	(1.4)	22	9.9	7
Retirements	8.1	14	4.5	5	15.5	3
End of year	197.6	4	125.1	5	373.3	2
Total gross value of depreciable assets:						
Beginning of year	323.0	3	174.9	5	459.3	3
New capital expenditures	33.3	6	(17.9)	17	52.6	9
Used capital expenditures	5.4	9	(2.1)	26	11.7	14
Retirements	12.0	11	4.9	7	20.0	3
End of year	349.7	6	190.1	4	503.7	3
Depreciation charges during 1977	21.5	3	16.3	10	31.3	3
Buildings and other structures	5.7	5	(3.5)	21	6.8	4
Machinery and equipment	15.8	4	12.8	12	24.5	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3531, CONSTRUCTION MACHINERY												
Total	-	**922**	**155.3**	**2 547.1**	**111.2**	**212.7**	**1 708.1**	**5 744.3**	**6 822.6**	**12 628.7**	**498.3**	**3 142.3**
Establishments with an average of—												
1 to 4 employees	E6	265	0.4	5.8	0.3	0.5	3.9	13.4	19.9	35.5	1.4	10.7
5 to 9 employees	E8	93	0.6	9.0	0.4	0.8	6.1	18.0	23.0	41.0	1.7	10.9
10 to 19 employees	E6	118	1.6	23.4	1.1	2.2	15.0	44.8	55.4	99.5	4.2	28.5
20 to 49 employees	E1	145	4.5	62.9	3.1	6.1	36.9	139.3	149.4	281.9	9.4	74.4
50 to 99 employees	E1	86	5.9	79.6	4.2	7.9	49.1	172.4	174.4	342.5	39.7	102.5
100 to 249 employees	-	103	16.6	228.4	11.3	22.6	135.9	484.2	565.3	1 033.4	25.5	328.2
250 to 499 employees	-	48	17.6	242.3	12.0	24.0	156.0	474.8	573.1	1 054.5	26.5	356.6
500 to 999 employees	-	36	27.0	434.6	18.4	36.5	276.5	995.9	1 278.5	2 255.7	389.8	680.1
1,000 to 2,499 employees	-	19	30.4	526.7	21.7	41.4	353.2	1 134.9	1 244.7	2 420.2	(D)	682.6
2,500 employees or more	-	9	50.6	934.3	38.5	70.7	675.5	2 266.5	2 738.9	5 064.5	(D)	867.8
Covered by administrative records[2]	E0	362	1.9	28.5	1.4	2.6	19.0	56.5	70.4	126.9	5.7	34.8
INDUSTRY 3532, MINING MACHINERY												
Total	-	**344**	**31.4**	**425.9**	**20.3**	**39.7**	**262.9**	**1 018.8**	**1 021.9**	**1 996.7**	**67.0**	**646.1**
Establishments with an average of—												
1 to 4 employees	E8	82	0.1	1.8	0.1	0.2	1.1	4.1	4.3	8.3	0.3	2.4
5 to 9 employees	E7	51	0.3	4.4	0.2	0.5	2.7	10.5	10.8	21.2	1.8	6.0
10 to 19 employees	E4	43	0.6	8.4	0.4	0.8	5.1	18.5	20.2	38.5	2.0	9.3
20 to 49 employees	E1	54	1.7	21.7	1.2	2.3	13.0	48.9	49.4	96.3	3.0	28.3
50 to 99 employees	-	46	3.3	42.8	2.3	4.4	24.6	108.8	108.2	218.2	6.4	59.1
100 to 249 employees	-	40	6.5	86.9	4.5	8.7	52.7	246.9	233.1	467.0	17.8	150.7
250 to 499 employees	-	13	4.8	66.0	3.3	6.4	44.1	138.1	169.0	301.8	10.0	73.3
500 to 999 employees	-	11	6.9	92.5	3.9	7.5	50.4	225.4	193.3	409.9	12.9	175.5
1,000 to 2,499 employees	-	3	(7.1)	(101.4)	(4.5)	(9.0)	(69.2)	(217.7)	(233.7)	(435.5)	(12.9)	(141.5)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	129	0.8	10.0	0.6	1.1	6.2	21.4	23.7	45.0	1.7	13.3
INDUSTRY 3533, OIL FIELD MACHINERY												
Total	-	**478**	**58.6**	**867.5**	**39.8**	**83.4**	**543.3**	**2 437.6**	**1 493.4**	**3 912.4**	**257.5**	**1 212.5**
Establishments with an average of—												
1 to 4 employees	E7	107	0.2	2.5	0.1	0.2	1.2	3.7	3.9	10.1	0.7	2.4
5 to 9 employees	E6	50	0.3	4.8	0.2	0.5	2.6	12.4	7.4	19.8	1.4	4.4
10 to 19 employees	E3	74	1.0	14.6	0.6	1.3	8.0	34.7	27.4	61.6	3.9	12.7
20 to 49 employees	E2	91	2.8	39.0	1.9	3.9	22.8	95.1	76.1	170.0	6.8	39.0
50 to 99 employees	-	52	3.5	51.1	2.4	5.2	30.5	141.9	90.2	225.7	36.4	50.8
100 to 249 employees	-	44	7.1	103.1	4.9	10.6	64.3	334.8	206.7	522.4	28.7	144.0
250 to 499 employees	-	35	12.4	176.4	8.2	17.5	107.6	480.0	369.7	836.5	63.3	303.6
500 to 999 employees	-	15	10.3	150.1	6.7	13.9	94.4	402.5	322.4	724.6	49.7	237.1
1,000 to 2,499 employees	-	8	(20.9)	(326.0)	(14.7)	(30.4)	(211.9)	(932.6)	(389.6)	(1 341.8)	(64.6)	(418.4)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	161	1.3	16.7	0.7	1.4	7.9	39.9	25.5	65.4	3.8	16.2
INDUSTRY 3534, ELEVATORS AND MOVING STAIRWAYS												
Total	-	**152**	**10.2**	**141.9**	**5.9**	**11.5**	**69.4**	**284.5**	**205.9**	**489.7**	**8.8**	**119.1**
Establishments with an average of—												
1 to 4 employees	E7	37	(Z)	0.6	(Z)	0.1	0.3	1.1	1.0	2.4	0.1	0.6
5 to 9 employees	E8	15	0.1	1.5	0.1	0.1	0.7	3.0	1.9	4.9	0.2	1.2
10 to 19 employees	E6	28	0.4	5.4	0.2	0.4	2.9	9.6	6.4	15.9	0.7	3.5
20 to 49 employees	E1	27	0.9	11.6	0.6	1.1	6.3	22.9	20.1	42.2	0.8	10.2
50 to 99 employees	E1	22	1.3	18.3	0.8	1.4	9.6	29.7	29.9	59.7	1.2	14.3
100 to 249 employees	-	13	2.2	30.4	1.4	2.9	18.1	64.9	46.0	108.7	5.9	24.3
250 to 499 employees	-	5	1.7	25.4	0.9	1.7	9.2	98.7	33.5	134.2	(D)	22.5
500 to 999 employees	-	5	3.5	48.7	1.9	3.8	22.5	54.7	67.1	121.7	(D)	42.5
Covered by administrative records[2]	E0	55	0.4	5.1	0.2	0.4	2.4	11.5	7.4	18.9	1.0	4.7
INDUSTRY 3535, CONVEYORS AND CONVEYING EQUIPMENT												
Total	-	**617**	**33.0**	**477.8**	**19.2**	**38.6**	**227.3**	**1 021.7**	**901.5**	**1 902.9**	**34.8**	**364.9**
Establishments with an average of—												
1 to 4 employees	E8	129	0.2	2.7	0.1	0.2	1.3	3.7	5.0	10 9	0.2	2 3
5 to 9 employees	E8	71	0.5	6.6	0.3	0.5	3.0	13.9	11.5	25 2	0.5	5 5
10 to 19 employees	E4	122	1.7	23.2	1.1	2.1	12.1	51.0	46.1	95 5	2 3	18 5
20 to 49 employees	E1	132	4.3	60.2	2.8	5.8	33.4	125.0	116.8	238.3	4.2	40 2
50 to 99 employees	-	82	5.7	79.8	3.8	7.6	42.0	164.1	157.0	315 0	5 4	57 7
100 to 249 employees	-	52	8.1	114.6	5.0	10.0	62 0	242.6	205.5	436 6	7 7	100 4
250 to 499 employees	-	22	8.0	112.6	4.4	8.7	49.3	250.6	225.2	473 6	9.6	81 1
500 to 999 employees	-	7	4.5	78.2	1.7	3.5	24.1	170.9	134.3	307 7	4.8	59 2
Covered by administrative records[2]	E0	235	1.8	23.7	1.0	2.0	10.9	50.7	41 7	92.4	2 1	20 1

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3536, HOISTS, CRANES, AND MONORAILS												
Total	-	242	15.8	210.5	10.6	20.6	122.0	453.2	387.0	836.0	17.9	203.6
Establishments with an average of—												
1 to 4 employees	E8	53	0.1	1.3	0.1	0.1	0.8	3.1	2.5	5.6	(Z)	1.4
5 to 9 employees	E6	30	0.2	2.9	0.1	0.3	1.8	6.6	6.3	12.9	0.2	3.5
10 to 19 employees	E5	38	0.5	7.4	0.3	0.7	4.3	15.8	15.7	31.6	0.5	6.7
20 to 49 employees	E1	56	1.8	24.5	1.2	2.4	14.3	48.8	48.3	95.5	1.6	20.4
50 to 99 employees	E1	28	2.1	27.7	1.4	2.8	16.7	65.6	64.0	128.9	2.6	28.4
100 to 249 employees	-	21	3.4	45.2	2.4	4.4	26.3	100.1	82.7	179.7	2.8	47.4
250 to 499 employees	-	7	2.5	28.9	1.8	3.6	19.8	90.1	63.6	145.8	6.5	38.0
500 to 999 employees	-	9	5.2	72.6	3.2	6.3	38.1	123.2	103.9	235.9	3.7	57.8
Covered by administrative records[2]	E0	88	0.6	7.5	0.4	0.7	4.5	16.8	13.6	30.3	0.5	7.6
INDUSTRY 3537, INDUSTRIAL TRUCKS AND TRACTORS												
Total	-	475	28.8	427.3	19.4	36.7	252.2	876.7	1 045.2	1 920.1	48.3	466.6
Establishments with an average of—												
1 to 4 employees	E8	153	0.2	3.3	0.2	0.3	2.0	5.8	8.0	13.9	0.3	4.1
5 to 9 employees	E8	72	0.5	6.8	0.3	0.7	4.0	12.1	16.1	28.1	0.9	8.0
10 to 19 employees	E6	79	1.1	14.3	0.7	1.4	8.6	25.2	33.4	58.3	1.3	15.4
20 to 49 employees	E2	89	2.8	35.3	2.0	3.8	21.1	67.3	75.2	140.5	3.3	32.6
50 to 99 employees	-	29	2.1	28.7	1.5	3.0	17.0	55.1	65.2	120.4	2.5	29.3
100 to 249 employees	-	30	4.7	64.8	3.2	6.4	38.4	133.0	157.5	289.8	6.5	64.7
250 to 499 employees	-	10	3.2	45.4	2.1	4.0	25.0	98.8	108.9	196.9	4.7	54.0
500 to 999 employees	-	6	3.7	57.1	2.3	4.6	29.5	139.9	170.9	309.3	7.4	71.5
1,000 to 2,499 employees	-	6	(10.4)	(171.6)	(7.0)	(12.5)	(106.7)	(339.5)	(410.0)	(762.9)	(21.5)	(187.0)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	252	1.5	20.6	1.1	2.0	12.2	34.3	47.5	81.8	1.5	24.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3531	**Construction machinery:**										
	Entire industry	922	155.3	2 547.1	111.2	212.7	1 708.1	5 744.3	6 822.6	12 628.7	498.3
	Establishments with 75 percent specialization or more	838	132.0	2 197.0	94.4	181.5	1 468.4	5 059.6	6 165.6	11 262.2	455.2
35311	Wheel tractors, contractors' off highway:										
	Establishments with this product class primary	11	1.6	22.6	1.1	2.4	15.8	50.9	69.2	120.5	1.9
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35312	Tracklaying tractors:										
	Establishments with this product class primary	8	23.2	439.5	17.3	32.1	309.2	883.1	1 180.6	2 070.4	122.5
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35313	Parts for tractors and tractor shovel loaders:										
	Establishments with this product class primary	29	12.7	224.5	9.8	18.1	156.5	435.4	408.4	841.1	(D)
	Establishments with 75 percent specialization or more in class	20	8.0	147.8	6.0	11.5	102.5	309.6	298.8	605.3	(D)
35314	Power cranes, draglines, shovels, and excavators:										
	Establishments with this product class primary	63	35.4	514.6	25.1	47.5	354.4	1 128.8	1 220.4	2 443.2	68.7
	Establishments with 75 percent specialization or more in class	44	23.5	332.9	16.8	32.3	226.1	780.1	794.9	1 609.8	47.3
35316	Mixers, pavers, and related equipment:										
	Establishments with this product class primary	57	8.4	117.6	5.4	10.4	64.6	232.6	221.3	443.1	6.0
	Establishments with 75 percent specialization or more in class	26	2.9	36.7	1.9	3.6	20.4	84.3	72.2	151.1	2.9
35317	Tractor shovel loaders:										
	Establishments with this product class primary	18	19.9	373.6	14.2	27.5	253.1	946.4	1 379.9	2 353.9	66.7
	Establishments with 75 percent specialization or more in class	10	3.5	51.0	2.1	3.7	26.3	136.7	201.5	341.7	4.3
35318	Scrapers, graders, rollers, off highway trucks:										
	Establishments with this product class primary	44	23.5	414.8	16.8	32.5	277.2	1 146.0	1 283.1	2 423.6	64.2
	Establishments with 75 percent specialization or more in class	26	6.9	116.4	4.3	8.5	64.9	246.3	349.4	576.2	(D)
35319	Construction machinery and equipment, n.e.c.:										
	Establishments with this product class primary	201	26.0	376.0	18.2	36.4	235.1	790.2	903.6	1 647.3	76.1
	Establishments with 75 percent specialization or more in class	141	14.3	209.8	10.0	20.0	128.3	479.3	532.9	983.7	56.7
3532	**Mining machinery:**										
	Entire industry	344	31.4	425.9	20.3	39.7	262.9	1 018.8	1 021.9	1 996.7	67.0
	Establishments with 75 percent specialization or more	310	22.4	296.1	14.5	28.3	182.6	741.5	747.4	1 453.0	44.6
35325	Underground mining machinery:										
	Establishments with this product class primary	35	7.7	106.8	4.7	9.3	64.1	256.1	295.9	534.5	10.1
	Establishments with 75 percent specialization or more in class	23	2.6	33.6	1.5	3.1	18.1	84.1	97.3	174.8	3.5
35326	Mineral beneficiation machinery:										
	Establishments with this product class primary	12	1.5	20.9	0.9	1.8	11.7	59.1	52.8	111.0	2.7
	Establishments with 75 percent specialization or more in class	7	0.4	5.4	0.3	0.6	3.0	14.1	19.8	33.6	0.7
35327	Crushing, pulverizing, and screening machinery:										
	Establishments with this product class primary	20	4.7	69.9	3.0	5.8	40.9	138.8	138.5	276.5	6.9
	Establishments with 75 percent specialization or more in class	11	1.1	16.5	0.7	1.4	9.6	41.8	65.6	107.5	2.5
35328	Mining machinery and equipment, n.e.c.:										
	Establishments with this product class primary	9	1.0	14.9	0.7	1.3	8.6	35.4	31.4	71.2	(D)
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35329	Parts and attachments for mining machinery:										
	Establishments with this product class primary	87	14.4	188.6	9.7	19.0	122.3	474.9	446.6	892.9	42.6
	Establishments with 75 percent specialization or more in class	59	5.5	72.7	4.0	7.9	48.4	198.2	171.7	355.3	14.1
3533	**Oil field machinery:**										
	Entire industry	478	58.6	867.5	39.8	83.4	543.3	2 437.6	1 493.4	3 912.4	257.5
	Establishments with 75 percent specialization or more	448	47.8	702.3	32.9	69.2	447.1	2 040.3	1 236.4	3 193.9	215.8
35331	Rotary oil field & gas field drilling machinery:										
	Establishments with this product class primary	70	23.9	374.4	16.2	33.8	236.4	1 044.2	550.1	1 623.6	112.2
	Establishments with 75 percent specialization or more in class	56	15.7	241.0	10.8	22.7	155.5	736.2	360.3	1 069.8	74.1
35332	Oilfield & gasfield drilling mach., exc. rotary:										
	Establishments with this product class primary	23	3.3	51.4	2.1	4.5	28.0	127.1	80.0	201.3	9.6
	Establishments with 75 percent specialization or more in class	15	1.5	22.2	0.9	1.9	12.2	62.7	49.0	109.4	6.9
35333	Oil and gas field production machinery:										
	Establishments with this product class primary	97	19.4	280.0	13.7	29.0	183.5	850.2	517.3	1 335.0	82.9
	Establishments with 75 percent specialization or more in class	80	15.9	230.2	11.3	23.9	148.9	698.5	404.7	1 072.3	71.1
35334	Oil and gas field machinery and tools, n.e.c.:										
	Establishments with this product class primary	34	8.3	112.6	5.5	11.5	69.7	300.4	280.7	569.7	22.1
	Establishments with 75 percent specialization or more in class	23	4.5	63.0	3.2	6.7	41.2	164.9	196.2	353.6	16.8
3534	**Elevators and moving stairways:**										
	Entire industry	152	10.2	141.9	5.9	11.5	69.4	284.5	205.9	489.7	8.8
	Establishments with 75 percent specialization or more	138	9.3	129.5	5.2	10.3	62.6	261.3	186.4	447.2	(D)
3535	**Conveyors and conveying equipment:**										
	Entire industry	617	33.0	477.8	19.2	38.6	227.3	1 021.7	901.5	1 902.9	34.8
	Establishments with 75 percent specialization or more	550	25.3	373.7	15.1	30.2	178.7	792.1	732.1	1 508.8	27.8
35353	Unit handling conveying systems, except hoists:										
	Establishments with this product class primary	130	14.1	222.7	7.8	15.9	101.2	445.0	386.4	823.3	13.8
	Establishments with 75 percent specialization or more in class	89	7.7	120.2	4.6	9.4	59.0	236.1	207.6	432.8	7.3
35354	Parts for unit handling conveyors:										
	Establishments with this product class primary	16	1.0	13.8	0.6	1.2	6.9	28.7	28.5	58.0	0.5
	Establishments with 75 percent specialization or more in class	8	0.3	4.4	0.2	0.5	2.8	12.2	10.5	22.6	0.2
35355	Bulk material handling conveyors, except hoists:										
	Establishments with this product class primary	131	11.2	154.9	6.6	13.2	73.5	350.9	329.1	668.0	10.6
	Establishments with 75 percent specialization or more in class	92	5.7	78.5	3.3	6.6	36.8	173.8	165.2	335.9	6.2
35356	Parts for bulk material handling conveyors:										
	Establishments with this product class primary	27	3.1	38.4	2.0	4.1	22.5	93.9	73.4	166.2	4.8
	Establishments with 75 percent specialization or more in class	22	2.2	29.0	1.5	2.9	17.0	75.0	56.8	129.0	(D)

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3536	**Hoists, cranes, and monorails:**										
	Entire industry	242	15.8	210.5	10.6	20.6	122.0	453.2	387.0	836.0	17.9
	Establishments with 75 percent specialization or more	219	12.5	165.6	8.4	16.3	96.8	349.1	316.6	665.1	16.9
35361	Hoists (including parts and attachments):										
	Establishments with this product class primary	61	8.0	102.7	5.5	10.4	61.0	265.8	194.8	451.3	10.3
	Establishments with 75 percent specialization or more in class	44	4.4	56.1	3.0	5.7	32.8	142.0	112.7	251.3	6.5
35362	Overhead traveling cranes and monorail sytems:										
	Establishments with this product class primary	57	6.6	91.2	4.3	8.7	51.1	149.2	161.6	317.0	5.3
	Establishments with 75 percent specialization or more in class	39	4.7	64.6	3.1	6.5	37.5	103.0	115.8	227.0	4.0
3537	**Industrial trucks and tractors:**										
	Entire industry	475	28.8	427.3	19.4	36.7	252.2	876.7	1 045.2	1 920.1	48.3
	Establishments with 75 percent specialization or more	446	25.1	371.3	16.9	32.1	220.8	776.5	933.9	1 708.7	38.8
35371	Industrial trucks, tractors, straddle carriers:										
	Establishments with this product class primary	108	22.6	341.9	15.0	28.3	199.5	713.5	868.6	1 586.3	39.5
	Establishments with 75 percent specialization or more in class	76	14.1	216.1	9.2	16.9	122.6	473.1	614.6	1 087.0	22.4
35372	Parts for industrial trucks and tractors:										
	Establishments with this product class primary	32	2.7	39.0	2.0	3.8	25.2	81.4	66.2	142.4	4.5
	Establishments with 75 percent specialization or more in class	28	2.2	30.4	1.6	3.2	20.0	68.4	55.8	118.6	4.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3531	Construction machinery	1977	12,628.7	10,946.1	1,093.9	588.7	91	11,569.9	10,946.1	623.8	95
		1972	6,091.0	5,245.8	575.4	269.8	90	5,653.6	5,245.8	407.8	93
		1967	4,138.0	3,459.0	486.3	192.7	88	3,766.6	3,459.0	307.6	92
3532	Mining machinery	1977	1,996.7	1,542.5	213.6	240.6	88	1,785.6	1,542.5	243.1	86
		1972	771.2	591.9	91.6	87.7	87	729.8	591.9	137.9	81
		1967	622.2	427.7	120.8	73.7	78	521.5	427.7	93.8	82
3533	Oil field machinery	1977	3,912.4	3,073.0	427.2	412.2	88	3,219.4	3,073.0	146.4	95
		1972	1,213.0	910.7	197.6	104.7	82	980.0	910.7	69.3	93
		1967	799.8	605.0	104.3	90.5	85	660.7	605.0	55.7	92
3534	Elevators and moving stairways	1977	489.7	403.9	16.5	69.3	96	435.1	403.9	31.2	93
		1972	483.6	395.0	13.0	75.6	97	412.2	395.0	17.2	96
		1967	319.7	280.0	16.6	[1]23.1	94	295.9	280.0	15.9	95
3535	Conveyors and conveying equipment	1977	1,902.9	1,466.7	171.2	265.0	90	1,684.6	1,466.7	217.9	87
		1972	968.0	728.6	83.0	156.4	90	825.6	728.6	97.0	88
		1967	763.0	544.6	98.1	120.3	85	655.4	544.6	110.8	83
3536	Hoists, cranes, and monorails	1977	836.0	682.9	102.4	50.7	87	901.3	682.9	218.4	76
		1972	527.3	375.9	103.8	47.6	78	446.0	375.9	70.1	84
		1967	444.4	320.0	90.0	34.4	78	385.3	320.0	65.3	83
3537	Industrial trucks and tractors	1977	1,920.1	1,701.8	102.0	116.3	94	1,799.9	1,701.8	98.1	95
		1972	1,035.4	916.1	42.2	77.1	96	1,004.8	916.1	88.7	91
		1967	778.0	672.4	49.8	55.8	93	780.7	672.4	108.3	86

[1]For 1967 and later years, figures were not comparable with those in earlier years because some companies included construction receipts with value of shipments in 1966 and prior years. For 1967, value added by manufacture and value of shipments would have been $50 million to $75 million higher had they been on a comparable basis with earlier years.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Construction machinery (SIC 3531)	Mining machinery (SIC 3532)	Oil field machinery (SIC 3533)	Elevators and moving stairways (SIC 3534)	Conveyors and conveying equipment (SIC 3535)	Hoists, cranes, and monorails (SIC 3536)	Industrial trucks and tractors (SIC 3537)	Other industries
	Total	(X)	12,628.7	1,996.7	3,912.4	489.7	1,902.9	836.0	1,920.1	(X)
	Primary products	(X)	10,946.1	1,542.5	3,073.0	403.9	1,466.7	682.9	1,701.8	(X)
	Secondary products	(X)	1,093.9	213.6	427.2	16.5	171.2	102.4	102.0	(X)
	Miscellaneous receipts	(X)	588.7	240.6	412.2	69.3	265.0	50.7	116.3	(X)
3531-	Construction machinery	11,569.9	10,946.1	79.1	26.8	-	1.1	19.7	26.8	470.3
35311	Wheel tractors, contractors' off highway	453.6	(D)	-	-	-	-	-	-	(D)
35312	Tracklaying tractors	1,164.6	1,164.6	-	-	-	-	-	-	-
35313	Parts for tractors and tractor shovel loaders	1,818.0	1,606.9	-	-	-	-	-	-	211.1
35314	Power cranes, draglines, shovels, and excavators	2,260.5	2,236.3	-	(D)	-	-	(D)	(D)	13.2
35316	Mixers, pavers, and related equipment	304.8	(D)	-	-	-	-	-	-	(D)
35317	Tractor shovel loaders	1,537.2	1,473.4	(D)	(Z)	-	-	-	-	(D)
35318	Scrapers, graders, rollers, off highway trucks	1,723.8	1,650.1	(D)	-	-	-	-	-	(D)
35319	Construction machinery and equipment, n.e.c	2,002.2	1,774.4	(D)	(D)	-	1.1	(D)	(D)	85.9
35310	Construction machinery, n.s.k	305.1	287.2	(Z)	-	-	-	.1	-	17.8
3532-	Mining machinery	1,785.6	136.1	1,542.5	19.5	-	(D)	(D)	-	84.1
35325	Underground mining machinery	432.1	(D)	412.4	(D)	-	-	-	-	15.6
35326	Mineral beneficiation machinery	100.9	(D)	77.2	-	-	-	-	-	(D)
35327	Crushing, pulverizing, and screening machinery	181.9	14.5	147.0	-	-	(D)	-	-	(D)
35328	Mining machinery and equipment, n.e.c	120.5	(D)	108.9	(D)	-	-	-	-	(D)
35329	Parts and attachments for mining machinery	841.4	(D)	690.9	(D)	-	(D)	(D)	-	30.9
35320	Mining machinery, n.s.k	108.8	.1	106.2	-	-	.2	-	-	2.4
3533-	Oil field machinery	3,219.4	(D)	(D)	3,073.0	-	-	(D)	-	62.3
35331	Rotary oil and gas field drilling machinery	1,221.4	-	(D)	1,184.4	-	-	(D)	-	(D)
35332	Oil and gas field drilling machinery, except rotary	208.3	-	-	204.5	-	-	-	-	3.7
35333	Oil and gas field production machinery	1,110.5	-	-	1,087.7	-	-	(D)	-	(D)
35334	Oil and gas field machinery and tools, n.e.c	520.6	(D)	(D)	439.7	-	-	-	-	(D)
35330	Oil field machinery, n.s.k	158.6	-	-	156.6	-	-	-	-	2.0
35340	Elevators and moving stairways	435.1	-	-	-	403.9	(D)	(D)	(D)	25.9
3535-	Conveyors and conveying equipment	1,684.6	26.3	34.4	-	-	1,466.7	4.5	7.0	145.7
35353	Unit handling conveying systems, except hoists	586.5	-	-	-	-	551.7	-	(D)	(D)
35354	Parts for unit handling conveyors	73.1	-	-	-	-	63.3	-	(D)	(D)
35355	Bulk material handling conveyors, except hoists	640.2	26.3	34.4	-	-	490.2	(D)	(D)	82.7
35356	Parts for bulk material handling conveyors	204.4	-	-	-	-	194.3	(D)	(D)	(D)
35350	Conveyors and conveying equipment, n.s.k	180.4	-	-	-	-	167.2	-	(Z)	13.1
3536-	Hoists, cranes, and monorails	901.3	86.0	(D)	(D)	.3	18.8	682.9	(D)	92.6
35361	Hoists (including parts and attachments)	404.1	(D)	(D)	-	-	(D)	344.4	(D)	43.8
35362	Overhead traveling cranes and monorail systems	426.8	(D)	-	(D)	-	(D)	270.9	(D)	48.2
35360	Hoists, cranes, and monorails, n.s.k	70.4	1.0	-	-	.3	.8	67.6	.1	.6
3537-	Industrial trucks and tractors	1,799.9	14.5	-	(D)	(D)	(D)	(D)	1,701.8	62.0
35371	Industrial trucks, tractors, straddle carriers	1,233.8	12.7	-	(D)	(D)	(D)	(D)	1,175.5	31.1
35372	Parts for industrial trucks and tractors	378.2	1.8	-	-	(D)	(D)	-	341.7	29.2
35370	Industrial trucks and tractors, n.s.k	187.9	.1	-	-	(Z)	.3	1.2	184.6	1.7
	Other shipments by 4-digit product group:									
2542-	Metal partitions and fixtures	(X)	-	-	-	-	2.2	-	.5	(X)
2891-	Adhesives and sealants	(X)	(D)	(D)	-	-	-	-	-	(X)
3312-	Blast furnaces and steel mills	(X)	(D)	-	(D)	-	-	-	-	(X)
3321-	Gray iron foundries	(X)	4.3	(D)	(D)	-	(D)	-	(Z)	(X)
3325-	Steel castings, n.e.c	(X)	(D)	-	-	-	-	-	(D)	(X)
3398-	Metal heat treating	(X)	(D)	(D)	(D)	-	-	(D)	-	(X)
3429-	Hardware, n.e.c	(X)	(D)	(D)	(D)	-	(D)	-	4.1	(X)
3441-	Fabricated structural metal	(X)	(D)	(D)	(D)	-	(D)	-	(D)	(X)
3443-	Fabricated plate work (boiler shops)	(X)	9.0	(D)	24.8	-	(D)	-	(D)	(X)
3444-	Sheet metal work	(X)	(D)	-	(D)	-	5.8	(D)	(D)	(X)
3446-	Architectural and ornamental metal work	(X)	(D)	-	-	-	(D)	-	(D)	(X)
3462-	Iron and steel forgings	(X)	-	-	(D)	-	-	-	(D)	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	-	-	-	(D)	-	-	(X)
3479-	Metal coating and allied services	(X)	-	-	(D)	-	-	-	-	(X)
3489-	Ordnance and accessories, n.e.c	(X)	-	-	(D)	(D)	(D)	-	-	(X)
3494-	Valves and pipe fittings	(X)	(D)	(D)	111.8	-	(D)	-	-	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	(D)	(D)	-	(D)	(D)	-	(X)
3498-	Fabricated pipe and fittings	(X)	-	-	(D)	-	-	-	-	(X)
3499-	Fabricated metal products, n.e.c	(X)	(D)	-	(D)	-	(D)	-	(D)	(X)
3519-	Internal combustion engines, n.e.c	(X)	(D)	-	-	-	-	(D)	-	(X)
3523-	Farm machinery and equipment	(X)	(D)	-	-	-	(D)	(D)	(D)	(X)
3524-	Lawn and garden equipment	(X)	4.0	(D)	-	-	-	(D)	-	(X)
3541-	Machine tools, metal cutting types	(X)	(D)	-	-	-	-	-	-	(X)
3545-	Machine tool accessories	(X)	(D)	(D)	.7	-	(D)	(D)	-	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Construction machinery (SIC 3531)	Mining machinery (SIC 3532)	Oilfield machinery (SIC 3533)	Elevators and moving stairways (SIC 3534)	Conveyors and conveying equipment (SIC 3535)	Hoists, cranes, and monorails (SIC 3536)	Industrial trucks and tractors (SIC 3537)	Other industries
	Other shipments by 4-digit product group--Con.									
3546-	Power driven hand tools	(X)	(D)	-	-	-	-	(D)	-	(X)
3549-	Metalworking machinery, n.e.c	(X)	(Z)	-	-	(D)	(D)	-	(D)	(X)
3551-	Food products machinery	(X)	(D)	(D)	-	-	4.7	-	(D)	(X)
3554-	Paper industries machinery	(X)	(D)	-	-	-	(D)	-	-	(X)
3559-	Special industry machinery, n.e.c	(X)	2.9	9.2	2.8	-	18.3	-	(D)	(X)
3561-	Pumps and pumping equipment	(X)	(D)	(D)	83.3	-	(D)	-	(D)	(X)
3563-	Air and gas compressors	(X)	(D)	-	(D)	-	(D)	(D)	-	(X)
3564-	Blowers and fans	(X)	(D)	-	-	-	9.1	-	-	(X)
3566-	Speed changers, drives, and gears	(X)	-	(D)	(D)	-	-	-	-	(X)
3568-	Power transmission equipment, n.e.c	(X)	(D)	-	(D)	(Z)	(D)	-	(Z)	(X)
3569-	General industrial machinery, n.e.c	(X)	(D)	(D)	(D)	(D)	7.5	5.2	(D)	(X)
3582-	Commercial laundry equipment	(X)	(D)	-	-	-	(D)	-	-	(X)
3585-	Refrigeration and heating equipment	(X)	(D)	-	-	-	-	-	-	(X)
3589-	Service industry machinery, n.e.c	(X)	(D)	(D)	(D)	-	(D)	(D)	-	(X)
3599-	Machinery, except electrical, n.e.c	(X)	14.9	(D)	2.1	(D)	4.0	(D)	(D)	(X)
3613-	Switchgear and switchboard apparatus	(X)	(D)	-	-	-	2.6	-	-	(X)
3621-	Motors and generators	(X)	(D)	(D)	-	-	-	-	(D)	(X)
3622-	Industrial controls	(X)	(D)	-	(D)	-	(D)	(D)	-	(X)
3662-	Radio and TV communication equipment	(X)	(D)	-	(D)	-	(D)	-	-	(X)
3711-	Motor vehicles and car bodies	(X)	(D)	-	-	-	-	(D)	-	(X)
3713-	Truck and bus bodies	(X)	6.7	-	-	-	(D)	20.0	-	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	-	-	-	(D)	(D)	(D)	(X)
3715-	Truck trailers	(X)	(D)	-	-	-	-	-	-	(X)
3731-	Ship building and repairing	(X)	(D)	-	-	-	(D)	-	-	(X)
3732-	Boat building and repairing	(X)	(D)	-	-	-	-	(D)	-	(X)
3743-	Railroad equipment	(X)	(D)	(D)	-	-	(D)	-	(D)	(X)
3799-	Transportation equipment, n.e.c	(X)	(D)	-	(D)	-	-	-	(D)	(X)
3824-	Fluid meters and counting devices	(X)	-	-	(D)	(D)	-	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	26.3	42.9	102.7	4.3	5.1	4.7	2.0	(X)
99980 13	Sales of scrap and refuse	(X)	19.7	1.2	(D)	(D)	1.0	.5	2.3	(X)
99980 31	Receipts for installation	(X)	(Z)	(D)	(D)	12.3	71.2	(D)	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	(D)	(D)	-	-	(D)	(D)	(D)	(X)
99980 61	Receipts for repair work	(X)	(D)	20.8	41.7	(D)	10.7	14.4	1.3	(X)
99980 98	Other miscellaneous receipts	(X)	24.2	2.7	119.4	(D)	14.9	7.0	5.7	(X)
99989 00	Resales	(X)	496.2	170.2	148.3	3.6	161.7	22.8	103.6	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3531-	3011 Tires and inner tubes	(D)
	3523 Farm machinery and equipment	269.8
	3569 General industrial machinery, n.e.c	(D)
	3599 Machinery, except electric, n.e.c	(D)
	3694 Engine electrical equipment	(D)
	3711 Motor vehicles and car bodies	(D)
	3714 Motor vehicle parts and accessories	36.0
	3728 Aircraft equipment, n.e.c	(D)
	3743 Railroad equipment	(D)
3532-	3312 Blast furnaces and steel mills	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3559 Special industry machinery, n.e.c	(D)
	3564 Blowers and fans	(D)
	3569 General industrial machinery, n.e.c	10.4
	3842 Surgical appliances and supplies	(D)
3533-	3452 Bolts, nuts, rivets, and washers	(D)
	3494 Valves and pipe fittings	(D)
	3542 Machine tools, metal forming types	(D)
	3561 Pumps and pumping equipment	(D)
	3599 Machinery, except electric, n.e.c	(D)
	3743 Railroad equipment	(D)
3534-	3586 Measuring and dispensing pumps	(D)
3535-	3443 Fabricated plate work (boiler shops)	(D)
	3499 Fabricated metal products, n.e.c	(D)
	3551 Food products machinery	(D)
	3559 Special industry machinery, n.e.c	(D)
	3564 Blowers and fans	(D)
	3568 Power transmission equipment, n.e.c	(D)
	3731 Ship building and repairing	(D)
	3841 Surgical and medical instruments	(D)
3536-	3559 Special industry machinery, n.e.c	(D)
	3561 Pumps and pumping equipment	(D)
	3713 Truck and bus bodies	(D)
	3715 Truck trailers	(D)
3537-	3011 Tires and inner tubes	(D)
	3523 Farm machinery and equipment	6.8
	3566 Speed changers, drives, and gears	(D)
	3714 Motor vehicle parts and accessories	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONSTRUCTION MACHINERY						
3531- --	Total	.....	(NA)	(X)	11,569.9	(X)	5,653.6
35311 --	Wheel tractors, contractors' off-highway type, (2- and 4-wheel), rubber-tired dozers, and self-propelled wheeled log skidders:						
	As reported in the census of manufactures	.....	22	(X)	453.6	(X)	251.5
	As reported in Current Industrial Reports MA-35D, Construction Machinery	.....	(NA)	8,650	429.7	(X)	256.8
	Wheel tractors, contractors' off-highway type (2- and 4-wheel) for use as towing unit for all types of scrapers, trailers, wagons	Number	(NA)	[3]4,937	[3]324.0	[4]5,029	[4]196.9
	By horsepower rating (2- and 4-wheel):						
35311 21	Under 199 maximum engine hp		(NA)	2,299	72.2	1,742	38.5
35311 23	200 to 299 maximum engine hp		(NA)			722	23.4
35311 25	300 to 399 maximum engine hp		(NA)	1,021	73.9	(D)	(D)
35311 27	400 to 499 maximum engine hp		(NA)			(D)	(D)
35311 29	500 maximum engine hp. and over		(NA)			(D)	(D)
	Rubber-tired dozers		(NA)	1,617	178.0	351	17.0
35311 33	125 to 299 maximum engine horsepower		(NA)				
35311 35	300 maximum engine horsepower and over		(NA)			351	17.0
35311 37	Wheeled log skidders, self-propelled	Number	(NA)	3,713	105.7	2,664	42.9
35312 --	Tracklaying tractors, 20 net engine horsepower rating and over, except parts and attachments:						
	As reported in the census of manufactures	.....	12	(X)	1,164.6	(X)	564.0
	As reported in Current Industrial Reports MA-35S, Tractors, Except Garden Tractors	Number	(NA)	19,968	1,136.3	21,225	546.0
35312 11	20 to 44 net engine hp		(NA)				
35312 13	45 to 59 net engine hp		(NA)	7,208	140.0	3,670	34.1
35312 15	60 to 89 net engine hp		(NA)				
35312 18	90 to 159 net engine hp		(NA)	5,044	232.9		
35312 22	160 to 259 net engine hp		(NA)			17,555	511.9
35312 24	260 to 344 net engine hp		(NA)	7,716	763.4		
35312 27	345 net engine hp. and over	Number	(NA)				
35313 --	Parts and attachments for tracklaying tractors, contractors' off-highway wheel tractors, and tractor shovel loaders	.....	56	(X)	1,818.0	(X)	865.7
35314 --	Power cranes, draglines, and shovels (excavators), including surface mining equipment, parts, and attachments, but not including equipment for mounting on tractors:						
	As reported in the census of manufactures	.....	57	(X)	2,260.5	(X)	[5]914.2
	As reported in Current Industrial Reports MA-35D, Construction Machinery	Number	(NA)	(X)	2,334.1	(X)	[4] [6]768.1
	Excavators		(NA)	5,239	593.9	[6] [7] [8]4,195	[6] [7] [8]225.7
	Cable operated:						
	Crawler mounted:						
	Rated shovel capacity:						
35314 54	3/4 cu. yd. and under		(NA)			51	1.7
35314 55	Over 3/4 cu. yd. up to and including 1 1/4 cu. yd.		(NA)			61	3.8
35314 56	Over 1-1/4 cu. yd. up to and including 2 cu. yd.		(NA)	49	12.0	54	3.7
35314 57	Over 2 cu. yd. up to and including 3-1/2 cu. yd.		(NA)			56	5.6
35314 58	Over 3 1/2 cu. yd. up to and including 5 cu. yd.		(NA)			22	4.6
35314 59	Over 5 cu. yd. up to and including 10 cu. yd.		(NA)			28	12.3
35314 60	Over 10 cu. yd. up to and including 15 cu. yd.		(NA)	127	158.0	23	14.3
35314 61	Over 15 cu. yds		(NA)			[7](D)	[7](D)
35314 53	Truck or wheel (rubber) mounted, all capacities		(NA)	-	-	[7](D)	[7](D)
	Hydraulic operated:						
	Crawler mounted:						
	Rated size, working weight, including bucket:						
35314 11	Up to and including 40,000 lb		(NA)	1,344	64.8		
35314 13	Over 40,000 up to and including 55,000 lb		(NA)	1,274	91.6		
35314 15	Over 55,000 up to and including 70,000 lb		(NA)	250	21.0		
35314 17	Over 70,000 up to and including 85,000 lb		(NA)	721	84.6	3,429	160.3
35314 19	Over 85,000 up to and including 100,000 lb		(NA)	201	28.2		
35314 20	Over 100,000 lb. up to and including 130,000 lb.		(NA)	139	22.2		
35314 22	Over 130,000 lb		(NA)	278	59.9		
35314 23	Truck or wheel (rubber) mounted, all sizes	Number	(NA)	856	51.6	[8]471	[8]19.4

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONSTRUCTION MACHINERY--Con.						
35314 --	Power cranes, draglines, and shovels (excavators), including surface mining equipment, parts, and attachments, but not including equipment for mounting on tractors--Con. As reported in Current Industrial Reports MA-35D, Construction Machinery--Con.						
	Cranes	Number	(NA)	6,732	839.8	[9]6,769	[9]459.0
	Cable operated:						
	Crawler mounted:						
	Maximum working load:						
35314 66	Up to and including 15 tons		(NA)	193	16.1	1,349	142.4
35314 67	Over 15 tons up to and including 30 tons		(NA)				
35314 68	Over 30 tons up to and including 45 tons		(NA)	144	16.6		
35314 69	Over 45 tons up to and including 60 tons		(NA)	198	30.4		
35314 70	Over 60 tons up to and including 75 tons		(NA)	47	8.6		
35314 71	Over 75 tons up to and including 90 tons		(NA)	96	24.8		
35314 72	Over 90 tons up to and including 120 tons		(NA)	108	28.5		
35314 25	Over 120 tons up to and including 150 tons		(NA)	182	82.0		
35314 26	Over 150 tons		(NA)	145	79.9		
	Truck or wheel (rubber) mounted:						
	Maximum working load:						
35314 73	Up to and including 30 tons		(NA)	268	28.7	732	61.9
35314 74	Over 30 tons up to and including 45 tons		(NA)				
35314 75	Over 45 tons up to and including 60 tons		(NA)	122	19.5		
35314 76	Over 60 tons up to and including 75 tons		(NA)	72	12.8		
35314 77	Over 75 tons up to and including 90 tons		(NA)	101	24.8	212	39.4
35314 78	Over 90 tons up to and including 120 tons		(NA)	85	30.3		
35314 79	Over 120 tons up to and including 150 tons		(NA)				
35314 80	Over 150 tons		(NA)	15	9.2		
	Hydraulic operated:						
35314 30	Crawler mounted		(NA)	-	-	[9](D)	[9](D)
	Truck mounted (rubber):						
	Maximum working load:						
35314 31	Up to and including 20 tons		(NA)	84	5.6	4,476	215.3
35314 32	Over 20 tons up to and including 30 tons		(NA)	232	21.5		
35314 33	Over 30 tons up to and including 55 tons		(NA)	304	37.8		
35314 34	Over 55 tons		(NA)	210	43.1		
	Self-propelled (rubber):						
	Maximum working load:						
35314 36	Up to and including 8 tons		(NA)	507	15.5		
35314 37	Over 8 tons up to and including 12 1/2 tons		(NA)	156	8.5		
35314 38	Over 12 1/2 tons up to and including 15 tons		(NA)	1,096	70.6		
35314 39	Over 15 tons up to and including 18 tons		(NA)	856	64.3		
35314 40	Over 18 tons up to and including 25 tons		(NA)	815	66.0		
35314 41	Over 25 tons		(NA)	696	94.6		
	Walking draglines:						
	Rated bucket capacity:						
35314 96	Up to and including 40 cu. yd		(NA)	34	349.6	(D)	(D)
35314 97	Over 40 cu. yd. up and including 60 cu. yd		(NA)				
35314 98	Over 60 cu. yd		(NA)				
	Other cranes:						
35314 03	Locomotive, except wrecking		(NA)	85	20.6	60	20.5
35314 05	Full circle revolving with booms (such as whirleys and hammerheads)		(NA)	81	22.3		
35314 07	Other cranes, including locomotive wrecking		(NA)	3,048	68.0	341	13.9
	Attachments for power cranes, draglines, and excavators (sold separately):						
35314 81	Magnet		(NA)	-	-	(X)	[6]27.5
35314 82	Log loader		(NA)	1,362	6.7		
35314 83	Shovel		(NA)				
35314 84	Hoe		(NA)				
	Dragline buckets:						
	Rated bucket capacity:						
35314 87	Up to and including 40 cu. yd. capacity		(NA)	962	7.7		
35314 88	Over 40 cu. yd. up to and including 60 cu. yd		(NA)				
35314 89	Over 60 cu. yd		(NA)				
35314 91	Clamshell/grapple		(NA)	1,290	6.9		
35314 92	All other attachments	Number	(NA)	855	23.0		
35314 85	Parts for power cranes, draglines, and shovels		(NA)	(X)	395.6	(X)	[6]129.5

See footnotes at end of table.

Table 6a. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONSTRUCTION MACHINERY--Con.						
35316 --	Mixers, pavers, and related equipment, excluding parts:						
	As reported in the census of manufactures	.....	63	(X)	304.8	(X)	[10]252.0
	As reported in Current Industrial Reports MQ-35D, Construction Machinery	.....	(NA)	(X)	310.8	(X)	[11]184.8
	Concrete:						
	Mixers:						
35316 12	Portable, under 3 1/2 cu. yd. capacity, except plaster and mortar, hand or power operated	Number	(NA)	([12])	([12])	[11]34,800	[11]3.6
	Portable, 3 1/2 cu. yd. capacity and over, except plaster and mortar:						
35316 21	Truck-mixer or agitator		(NA)	4,901	58.0	7,431	51.6
35316 25	Other than truck-mixer		(NA)	([12])	([12])	3,373	3.8
35316 31	Plaster and mortar, all sizes		(NA)	([12])	([12])	[11]26,500	[11]15.4
35316 34	Pavers, finishers, and spreaders		(NA)	1,204	17.4	[11]27,100	[11]23.1
35316 37	Concrete batching plants, bin and batch for concrete aggregate only and bulk cement		(NA)	395	33.4	699	25.7
35316 38	Concrete vibrators, including screeds		(NA)	(X)	[12]20.4	[11]6,600	[11]10.4
	Concrete pumps, mobile:						
	Trailer mounted:						
35316 17	Under 25 cu. yd./hr.		(NA)	1,183	13.5	([13])	([13])
35316 18	25 cu. yd./hr. and over		(NA)				
	Trailer mounted, including value of booms and truck:						
35316 19	Under 50 cu. yd./hr.		(NA)	298	18.2		
35316 20	50 cu. yd./hr. to 100 cu. yd./hr		(NA)				
35316 23	Over 100 cu. yd./hr		(NA)				
	Bituminous equipment:						
35316 41	Distributors		(NA)	588	19.6	572	4.6
	Pavers, self-propelled		(NA)	1,026	46.5	815	33.2
35316 13	Under 8,500 lb. gross weight (basic unit)		(NA)	589	13.2	815	33.2
35316 14	8,500 lb. to 19,999 lb. gross weight (basic unit)		(NA)				
35316 15	20,000 lb. to 34,999 lb. gross weight (basic unit)		(NA)	437	33.4		
35316 16	35,000 lb. and over gross weight		(NA)				
	Asphalt plants:						
	Central mixing plants (batch type and continuous type) (t.p.h. = tons per hour)		(NA)	198	58.7	206	47.3
35316 45	Under 2,000 lb. batch (under 60 t.p.h.)		(NA)	72	15.0	81	11.8
35316 46	2,000 lb. to 3,500 lb. batch (60 to 119 t.p.h.)		(NA)				
35316 47	4,000 lb. to 5,500 lb. batch (120 to 179 t.p.h.)		(NA)				
35316 48	6,000 lb. to 7,500 lb. batch (180 to 239 t.p.h.)		(NA)	126	43.7	56	13.8
35316 49	8,000 lb. batch and over (240 t.p.h. and over)		(NA)			69	21.6
35316 39	Other bituminous equipment, including mixers, heating kettles, heaters, circulators, travel mix type, asphalt boxes, and spreader boxes		(NA)	3,547	15.3	3,170	12.0
	Stabilization mixing equipment:						
35316 54	Central plants		(NA)	199	9.7	220	6.6
35316 55	Mix-in-place	Number	(NA)				
35317 --	Tractor shovel loaders, excluding parts and attachments	.....	(NA)	(X)	1,537.2	(X)	810.7
	Wheel type:						
35317 10	As reported in the census of manufactures	.....	19	(X)	1,105.7	(X)	605.4
	As reported in Current Industrial Reports MQ-35D, Construction Machinery	.....	(NA)	36,628	1,131.2	(X)	[4] [14]592.8
	4-wheel drive skid steer:						
35317 19	Under 35 hp	Number	(NA)	14,289	77.3	10,415	36.9
35317 21	Over 35 hp		(NA)	6,722	61.9	3,675	19.6
	Front-end loader (integral design, rear engine mount)		(NA)	15,617	992.0	(D)	(D)
	4-wheel drive:						
35317 03	Under 1 cu. yd. bucket capacity		(NA)	[15]1,801	[15]31.8	1,266	15.0
35317 04	1 cu. yd. up to 1 1/2 cu. yd		(NA)				
35317 05	1 1/2 cu. yd. up to 2 cu. yd		(NA)	2,106	59.4	3,963	73.6
35317 06	2 cu. yd. up to 2 1/2 cu. yd		(NA)	2,825	90.8	1,997	48.5
35317 07	2 1/2 cu. yd. up to 3 1/2 cu. yd		(NA)	2,851	137.1	3,151	92.5
35317 08	3 1/2 cu. yd. up to 5 cu. yd		(NA)	3,106	222.9	2,123	86.6
35317 15	5 cu. yd. up to 7 1/2 cu. yd		(NA)	2,131	268.7	1,521	99.1
35317 16	7 1/2 yd. up to 10 cu. yd		(NA)	797	181.3	361	42.2
35317 17	10 cu. yd. and over		(NA)				
	2-wheel drive:						
35317 11	Under 1 cu. yd. bucket capacity		(NA)	([15])	([15])	(D)	(D)
35317 12	1 cu. yd. bucket capacity and over	Number	(NA)	([15])	([15])		
	Tracklaying type (20 net engine hp. and over):						
35317 20	As reported in the census of manufactures	.....	7	(X)	224.7	(X)	205.3
	As reported in Current Industrial Reports MA-35S, Tractors, Except Garden Tractors[6]	.....	(NA)	6,179	219.6	10,454	208.9
35317 11	20 to 44 net engine hp	Number	(NA)	3,561	82.3	2,199	24.3
35317 13	45 to 59 net engine hp		(NA)				
35317 15	60 to 89 net engine hp	Number	(NA)			3,966	60.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONSTRUCTION MACHINERY--Con.						
35317 --	Tractor shovel loaders, excluding parts and attachments--Con.						
	Tracklaying type (20 net engine hp. and over)--Con.						
	As reported in Current Industrial Reports MA-35S, Tractors, Except Garden Tractors--Con.						
35317 18	90 to 159 net engine hp	Number	(NA)	2,618	137.3	4,289	124.6
35317 22	160 to 259 net engine hp		(NA)				
35317 25	260 net engine hp. and over		(NA)				
35317 30	Wheel tractor-chassis shipped as part of front engine mount, integral design tractor shovel loader/backhoes (NEHP):						
	As reported in the census of manufactures		7	(X)	206.1	(16)	(16)
	As reported in Current Industrial Reports MA-35S, Tractors, Except Garden Tractors	Number	(NA)	20,204	212.9		
35317 00	Tractor shovel loaders, excluding parts and attachments, n.s.k.		(NA)	(X)	0.8	(X)	-
35318 --	Scrapers, graders, rollers, and off-highway trucks and coal haulers, trailers, wagons, and construction machinery for mounting on tractors and other prime movers, excluding parts:						
	As reported in the census of manufactures		79	(X)	1,723.8	(X)	964.8
	As reported in Current Industrial Reports MQ-35D, Construction Machinery		(NA)	(X)	1,709.6	(X)	[17]932.4
	Scrapers	Number	(NA)	4,518	189.9	[4]4,976	[4]132.8
	Conventional scraper bowls (dig, carrying, and hauling) used as part of a self-propelled, nonelevating, 2-wheel type scraper, S.A.E. struck rating:						
35318 12	7 cu. yd. up to 12 cu. yd. struck		(NA)	1,916	124.2	(D)	(D)
35318 13	12 cu. yd. up to 18 cu. yd. struck		(NA)				
35318 14	18 cu. yd. up to 26 cu. yd. struck		(NA)				
35318 15	26 cu. yd. up to 35 cu. yd. struck		(NA)				
35318 16	35 cu. yd. struck and over		(NA)				
	Elevating scraper bowls (dig, carrying, and hauling) 2- and 4-wheel type, S.A.E. heaped rating:						
35318 17	7 cu. yd. up to 12 cu. yd. heaped		(NA)	1,134	26.2	1,652	23.8
35318 18	12 cu. yd. up to 18 cu. yd. heaped		(NA)				
35318 19	18 cu. yd. up to 30 cu. yd. heaped		(NA)	1,468	39.5	436	12.7
35318 21	30 cu. yd. and over		(NA)			(D)	(D)
35318 29	All other scraper bowls, towed type, 2- and 4-wheel, and other scraper bowls, n.e.c.		(NA)			(D)	(D)
	Motor graders and light maintainers		(NA)	6,706	324.6	6,524	154.8
35318 23	Under 75 net engine hp		(NA)	661	16.7	581	5.6
35318 24	75 to 114 net engine hp		(NA)			4,005	90.8
35318 25	115 to 144 net engine hp		(NA)	3,021	141.1		
35318 28	145 to 199 net engine hp		(NA)	3,024	166.8	1,938	58.4
35318 30	200 net engine hp. and over		(NA)	9,537	140.2	6,968	77.4
	Rollers, self-propelled type, ride-on						
	Steel wheeled, static (non-vibratory):						
35318 31	3-wheeled and segmented		(NA)	2,356	7.5	187	3.7
	Tandem, 2- and 3-axle		(NA)			3,617	20.7
35318 34	Under 3 tons		(NA)			1,843	4.2
35318 35	4 tons (3 tons thru 4 1/2 tons)		(NA)	487	5.7	757	5.4
35318 36	5 tons (over 4 1/2 tons thru 7 1/2 tons)		(NA)	149	2.2	319	2.8
35318 37	8 tons and over (over 7 1/2 tons)		(NA)	330	6.5	698	8.3
	Pneumatic tire:						
35318 51	4,000 lb. wheel load and under		(NA)	380	6.3	663	5.4
35318 52	Over 4,000 lb. up to and including 8,000 lb. wheel load		(NA)	910	33.3	242	4.1
35318 54	Over 8,000 lb. wheel load		(NA)			58	1.1
35318 39	Sheepsfoot, static		(NA)			404	14.9
	Vibratory compactors, self-propelled:						
	Single drum (one drum vibrating):						
35318 40	Under 6 ton gross weight		(NA)	2,255	12.8	1,797	27.4
35318 41	6 ton gross weight and over		(NA)	1,758	46.2		
35318 43	Double drum (two drums vibrating), all sizes		(NA)	821	19.5		
35318 44	Other		(NA)	91	.2		
	Rollers, towed type		(NA)	343	2.1	909	4.2
35318 42	Pneumatic tire, including vibratory		(NA)	37	.2	82	.5
35318 49	Sheepsfoot and bar type		(NA)	154	1.0	410	1.3
35318 56	Vibratory, single steel drum		(NA)	152	1.0	417	2.4
	Construction machinery for mounting on tractors, shovel loaders, or other prime movers[18]		(NA)	99,590	457.8	(S)	[4][19]292.7
	Sidebooms or pipehandlers:						
35318 71	Under 30,000 lb. lift capacity		(NA)	1,275	21.6	643	7.9
35318 72	30,000 to 110,000 lb. lift capacity		(NA)				
35318 73	Over 110,000 lb. lift capacity	Number	(NA)				

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONSTRUCTION MACHINERY--Con.						
35318 --	Scrapers, graders, rollers, and off-highway trucks and coal haulers, trailers, wagons and construction machinery for mounting on tractors and other prime movers, excluding parts--Con.						
	As reported in Current Industrial Reports MQ-35D, Construction Machinery--Con.						
	Construction machinery for mounting on tractors, shovel loaders, or other prime movers--Con.						
	Dozers, for crawler and wheel tractors:						
35318 74	6 ft., 0 in. up to 10 ft., 1 in.	Number	(NA)	7,684	27.0	17,007	64.0
35318 75	10 ft., 1 in. up to 14 ft., 1 in.		(NA)	8,632	82.1		
35318 76	14 ft., 1 in. and over		(NA)				
35318 78	Winches (towing, logging, and oil-field types)		(NA)	9,298	34.0	(D)	(D)
	Backhoes:						
35318 79	Under 14 ft. digging depth		(NA)	5,295	14.6	20,226	98.9
35318 80	14 ft. digging depth and over		(NA)	21,599	113.0		
35318 82	Front-end loaders (3/8 cu. yd. and over), nonfarm type[20]		(NA)	28,908	72.3	36,187	44.5
35318 83	Logging arches		(NA)	573	5.3	(D)	(D)
35318 87	Rippers and rooters, heavy rear mounted		(NA)	4,859	38.8	5,913	23.2
	Continuous ditching and trenching attachments:						
35318 88	Crawler-vehicle mounted		(NA)	([21])	([21])	(D)	(D)
35318 89	Rubber-tired-vehicle mounted		(NA)	([21])	([21])	(D)	(D)
35318 90	Fork lifts		(NA)	1,625	8.5	([22])	([22])
35318 91	All other construction machinery for mounting, including cranes, cable power control units, hydraulic power control units, etc		(NA)	[21]9,842	[21]40.7	([22])	([22])
	Off-highway equipment		(NA)	5,561	594.9	6,217	270.1
	Rear dump earth, rocks, and ore load on back haulers		(NA)	2,816	473.4	2,014	168.5
35318 55	Under 20 tons capacity		(NA)	210	16.9	395	17.4
35318 57	20 tons to and including 30 tons capacity		(NA)				
35318 59	Over 30 tons up to and including 45 tons capacity		(NA)	1,225	143.3	960	64.4
35318 65	Over 45 tons up to and including 70 tons capacity		(NA)	889	155.0	394	36.9
35318 69	Over 70 tons up to and including 100 tons capacity		(NA)	492	158.1	265	49.9
35318 70	Over 100 tons capacity		(NA)				
35318 84	Integral self-powered side and botton dumps, including coal haulers, all sizes		(NA)	([23])	([23])		
	Off-highway truck type, rear dump chassis used as a tractor for towing earth, rock, coal, and ore trailers:						
35318 85	Under 600 gross hp		(NA)	60	11.6	3,998	88.5
35318 86	600 gross hp. through 899 gross hp		(NA)				
35318 92	900 gross hp. and over		(NA)				
35318 93	Other truck type tractor chassis, used for log hauling, oil fields, desert, and other uses		(NA)	[23]2,544	[23]99.8		
	Off-highway trailers and wagons (end, side, and bottom dump):						
35318 94	Under 90 tons capacity		(NA)	141	10.1	205	13.1
35318 95	90 tons through 129 tons capacity		(NA)				
35318 96	130 tons capacity and over	Number	(NA)				
35319 --	Other construction machinery and equipment, including other construction machinery parts		(NA)	(X)	[24]2,002.2	(X)	913.0
35319 06	Commercial brush, limb, and log chippers for waste wood reduction	Thousands	2	([25])	([25])	([26])	([26])
35319 07	Log splitters	Thousands	6	**15.6	8.6	([26])	([26])
35319 11	Dredging machinery, hydraulic and other types		6	(X)	52.3	(X)	21.1
	Self-propelled continuous ditchers and trenchers, including ladder and wheel types (integral units only):						
35319 20	As reported in the census of manufactures		9	(X)	85.4	(X)	[27]123.7
	As reported in Current Industrial Reports MQ-35D, Construction Machinery		(NA)	11,051	85.1	(X)	126.6
	Ladder type digging elements	Number	(NA)	10,822	72.8	13,420	56.5
35319 14	Under 2,000 lb. gross weight		(NA)			11,110	35.2
35319 15	2,000 to 4,999 lb. gross weight		(NA)	10,822	72.8		
35319 17	5,000 lb. gross weight and over		(NA)			2,310	21.4
35319 18	Wheel type digging element	Number	(NA)	229	12.3	212	6.8
35319 21	Railway maintenance-of-way equipment (rail layers, ballast spreaders, etc.), except railcars		13	(X)	96.9	(X)	35.4
35319 23	Horizontal and vertical earth augers and power post hole diggers, excluding water well and blast hole drills	Thousands	16	(S)	17.6	(X)	32.1
	Portable surface type water well and blast hole drills, crawler mounted, and truck or wheel mounted:						
35319 30	As reported in the census of manufactures		(NA)	([28])	([28])	([27])	([27])
	As reported in Current Industrial Reports MQ-35D, Construction Machinery		(NA)	([28])	([28])	702	39.8
35319 52	Winches, including winches for marine use, excluding winches for mounting on wheel or tracklaying tractors		30	(X)	103.6	(X)	76.3

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	CONSTRUCTION MACHINERY--Con.						
35319 --	Other construction machinery and equipment, including other construction machinery parts--Con.						
	Portable crushing plants, screening plants, washing plants, and combination plants:						
35319 70	As reported in the census of manufactures	.....	18	(X)	51.0	([27])	([27])
	As reported in Current Industrial Reports MQ-35D, Construction Machinery:						
35319 73	Under 150 tons per hour	Number	(NA)	213	19.2	54	2.5
35319 75	150 tons per hour and over	Number	(NA)	257	34.2	217	21.0
35319 71	Hand-held compaction equipment, including tampers, upright and vibratory compactors, etc	Thousands	12	*33.8	24.4	234	15.1
35319 81	Snow clearing attachments for mounting on tractors or trucks, including rotary snow plows, V-shaped snow plows, single blades and wings, and snow blowers	Thousands	30	(S)	66.9	(X)	40.1
35319 83	Other excavating and road construction machinery	.....	33	(X)	96.0	(X)	[29]124.7
	Parts and attachments for construction machinery and equipment, except parts and attachments for power cranes, draglines, shovels, and tractors:						
35319 84	Sold to plants producing construction machinery and equipment	.....	57	(X)	381.9	(X)	82.7
35319 86	For replacement and repair	.....	107	(X)	713.2	(X)	247.0
35319 98	All other construction machinery and equipment, complete units, including well point systems, derricks except oil and gas well, gallows, frames, ginpoles, stiff legs, and guys	Thousands	76	(X)	[25]263.1	(X)	[26]91.7
35319 00	Other construction machinery and equipment, including parts, n.s.k.	.....	(NA)	(X)	41.3	(X)	23.1
35310 00	Construction machinery, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	178.2	(X)	91.8
35310 02	Construction machinery, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	126.9	(X)	25.9
	MINING MACHINERY						
3532- --	Total	.....	(NA)	(X)	1,785.6	(X)	729.8
35325 --	Undergound mining machinery:						
	As reported in census of manufactures	.....	48	(X)	432.1	(X)	[30]168.5
	As reported in Current Industrial Reports MA-35F, Mining Machinery and Equipment	.....	(NA)	(X)	440.3	(X)	123.9
	Cutting machines:						
35325 14	Shortwall and universal	Number	(NA)	([31])	([31])		
35325 47	Augers, coal recovery		(NA)	([32])	([32])		
	Longwall mining machines, coal type:						
35325 16	Plows		-	-	-		
35325 18	Shearer or cutter loader		(NA)	([31])	([31])	719	40.2
	Loading machines, underground mine:						
	Gathering arm type:						
35325 32	Coal		(NA)	([31])	([31])		
35325 34	Other than coal		(NA)				
35325 36	Shovel type, including scoops and slusher hoists		(NA)	(S)	[31]109.5		
	Continuous mining machines, borer and ripper:						
35325 41	Coal		(NA)	523	140.7	299	48.4
35325 42	Other than coal		(NA)				
	Shuttle cars, rubber-tired, self-propelled:						
35325 71	Coal		(NA)	([32])	([32])	3,884	35.3
35325 74	Other than coal		(NA)				
35325 75	Mine cars, track		(NA)	2,326	17.5		
35325 76	Roof bolters		(NA)	558	23.3	([33])	([33])
35325 77	Rock dusters		(NA)	244	2.5	([33])	([33])
35325 78	Breakers, mounted, including air and hydraulic		-	-	-	([33])	([33])
35325 72	Tractors and trucks, battery powered, rubber tired, 2 and 4 wheel, including self-propelled personnel carriers		(NA)	([32])	([32])	([33])	([33])
35325 73	Mine trailers, all types, including supply, personnel, haulage, tank, lubrication, etc		(NA)	([32])	([32])	([33])	([33])
35325 79	Other underground mining machinery, n.e.c., except parts	Number	(NA)	(S)	[32]146.9	([33])	([33])

See footnotes at end of table.

Table 6a. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MINING MACHINERY--Con.						
35326 --	Mineral classifying, flotation, separating, concentrating, cleaning, clarifying, and related equipment:						
	As reported in census of manufactures	.....	27	(X)	100.9	(X)	([30])
	As reported in Current Industrial Reports MA-35F, Mining Machinery and Equipment	.....	(NA)	(X)	92.2	(X)	32.2
35326 52	Flotation machines (quantity represents number of cells)	Number	(NA)	967	8.8	578	1.9
35326 53	Dense medium vessels		(NA)	30	2.4	([34])	([34])
35326 54	Jigs		(NA)	137	3.9	145	2.2
35326 55	Concentrating tables		(NA)				
35326 56	Classifiers (sizing, washing, and dewatering), excluding cyclones		(NA)	565	12.0	405	4.8
35326 57	Wet cyclones, including heavy medium cyclones		(NA)	2,632	4.6	1,029	1.1
35326 58	Centrifuges		(NA)	310	12.7	([34])	([34])
35326 59	Centrifugal drivers		(NA)			101	1.8
35326 61	Scrubbers, all types, including drums, log washers, attritioning machines, etc		(NA)	47	1.6	84	1.4
35326 62	Thermal dryers		(NA)	51	3.6	38	3.0
35326 63	Spirals, concentrating		(NA)			([34])	([34])
35326 64	Thickeners, excluding wet cyclones	Number	(NA)	(S)	13.6	([34])	([34])
35326 65	Filters	Square feet	(NA)			([34])	([34])
35326 66	Feeders, apron, vibrating, reciprocating	Number	(NA)	1,172	17.5	1,301	10.0
35326 67	Magnetic separators	No. of drums	(NA)	158	2.5	283	1.5
35326 69	Other mineral classifying, flotation, separating, concentrating, cleaning, clarifying, and related equipment, n.e.c	Number	(NA)	(S)	8.9	(X)	[34]4.4
35327 --	Crushing, pulverizing, and screening machinery:						
	As reported in the census of manufactures	.....	40	(X)	181.9	(X)	101.3
	As reported in Current Industrial Reports MA-35F, Mining Machinery and Equipment	.....	(NA)	(X)	193.1	(X)	96.3
	Crushers, stationary types, including crushers mounted on skids:						
	Gyratory:						
35327 10	Cone type	Number	(NA)	392	35.6	469	20.6
35327 12	Other		(NA)				
35327 13	Impact		(NA)	741	24.7	554	11.7
35327 17	Jaw		(NA)	248	9.3	254	4.2
35327 19	Roll		(NA)	549	33.9	533	11.7
	Grinding mills:						
35327 33	Ball, including pebble mills		(NA)	158	53.9	168	11.0
35327 37	Rod		(NA)	18	.9	5	.5
35327 55	Screens, vibrating, trommel, mine type	Number	(NA)	3,687	33.8	4,240	36.6
35327 59	Other crushing, pulverizing, and screening machinery, n.e.c	.....	(NA)	(X)	1.1	(X)	-
35328 --	All other complete mining machinery and equipment, including all rock drills:						
	As reported in census of manufactures	.....	30	(X)	120.5	(X)	93.5
	As reported in Current Industrial Reports MA-35F, Mining Machinery and Equipment	.....	(NA)	(X)	125.7	(X)	92.1
35328 23	Rock drills (percussion type), including stopers, drifters, and air leg drills	Number	(NA)	[35]8,294	[35]40.0	[36]10,024	[36]25.6
35328 13	Core drills, mineral exploration		(NA)	700	8.9		
35328 43	Rotary drills, underground (coal and roof)		(NA)	([35])	([35])	500	11.1
35328 96	Powered roof supports for longwall mining	Number	(NA)	979	15.8		
35328 98	All other mining machinery and equipment, except parts, n.e.c	.....	(NA)	(X)	[35]61.0	(S)	[37]55.3
35329 --	Parts and attachments for mining machinery and equipment	.....	(NA)	(X)	841.4	(X)	331.1
	Percussion rock drill bits:						
35329 31	Containing tungsten carbide	Millions	17	(S)	110.5	(X)	38.7
35329 35	Made entirely of steel	Millions	2			(X)	6.6
35329 41	Other drill bits, tools, and supplies for drills (sold separately)	Thousands	23	(S)	128.8	(X)	[36]77.0
35329 75	Parts and attachments for mining machinery and equipment, sold separately, excluding drills	.....	85	(X)	597.6	(X)	194.5
35329 00	Parts and attachments for mining machinery and equipment, n.s.k	.....	(X)	(X)	4.4	(X)	14.3
35320 00	Mining machinery, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	63.8	(X)	30.0
35320 02	Mining machinery, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	45.0	(X)	5.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	OIL FIELD MACHINERY						
3533- --	Total	.....	(NA)	(X)	3,219.4	(X)	980.0
35331 --	Rotary oil and gas field drilling machinery and equipment	.....	(NA)	(X)	1,221.4	(X)	348.2
	Rotary drilling surface equipment:						
35331 11	Blocks, crown and traveling	Number	7	338	7.7	(S)	4.0
35331 12	Draw works and accessories	Number	11	308	43.8	84	11.0
35331 14	Rotary tables	Number	5	376	9.3	158	2.1
35331 15	Elevators, spiders, slips, hooks, links, and connectors	.....	8	(X)	66.9	(X)	13.6
35331 16	Swivels and accessories	.....	10	(X)	14.7	(X)	2.7
35331 17	Well control equipment (blow-out preventers, etc.)	.....	13	(X)	233.1	(X)	36.8
35331 19	Other rotary drilling surface machinery and equipment	.....	17	(X)	59.3	(X)	32.3
	Rotary drilling subsurface equipment:						
35331 41	Bits	Thousands	11	451	424.0	327	129.8
35331 42	Reamers	.....	6	(X)	(38)	(X)	8.5
35331 43	Coring equipment	.....	5	(X)	7.0	(X)	(39)
35331 44	Tool joints, subs, and connectors	.....	12	(X)	120.5	(X)	27.7
35331 45	Drill collars	Thousands	6	21	59.2	17	18.8
35331 47	Fishing and cutting tools	.....	10	(X)	58.5	(X)	.7
35331 49	Other subsurface rotary drilling equipment, including Kelly joints	.....	16	(X)	38 81.2	(X)	39 48.9
35331 00	Rotary oil and gas field drilling machinery and equipment, n.s.k	.....	(NA)	(X)	36.2	(X)	11.3
35332 --	Other oil and gas field drilling machinery and equipment	.....	(NA)	(X)	208.3	(X)	87.0
35332 31	Cable tool drilling machinery and equipment, including both surface and subsurface equipment	.....	2	(X)	(40)	(X)	(40)
	Cementing, floating, guiding, and shoe equipment:						
35332 51	Guide shoes, float collars, and combination guide and float shoes	.....	6	(X)	16.9	(X)	8.6
35332 55	Other cementing equipment	.....	6	(X)	14.8	(X)	12.6
35332 61	Parts for oil and gas field drilling equipment sold separately, except parts for portable drilling rigs	.....	20	(X)	109.1	(X)	22.9
35332 98	Other oil and gas field drilling equipment, except portable	.....	15	(X)	40 65.9	(X)	40 42.9
35332 00	Other oil and gas field drilling machinery and equipment, n.s.k	.....	(NA)	(X)	1.5	(X)	-
35333 --	Oil and gas field production machinery and equipment, except pumps	.....	(NA)	(X)	1,110.5	(X)	376.5
	Production well equipment, surface and subsurface:						
35333 11	Christmas tree assemblies	.....	8	(X)	95.2	(X)	23.5
35333 13	Casing and tubing heads and supports	.....	14	(X)	117.2	(X)	4.3
35333 15	Chokes, manifolds, and other accessories	.....	13	(X)	39.0	(X)	10.0
35333 19	Rodless oil lifting machinery and equipment, except pumps	.....	5	(X)	39.1	(X)	33.4
	Rod lifting machinery and equipment, surface, including pumps when they are components of a complete assembly:						
35333 53	Pumping units and accessories, including back crank equipment	Thousands	12	8	167.1	(41)	(41)
35333 55	Other surface rod lifting machinery and equipment	.....	3	(X)	(42)	(X)	6.5
35333 57	Rod lifting equipment, subsurface, except pumps	1,000 sucker rods.	5	14,366	71.4	(S)	24.2
	Other production machinery and equipment:						
35333 61	Packers	.....	11	(X)	121.6	(X)	57.5
35333 65	Screens, tubing, catchers, etc	.....	6	(X)	22.9	(X)	8.1
35333 71	Oil and gas separating, metering, and treating equipment	1,000 separators.	18	(S)	90.3	20	45.2
35333 81	Parts for oil and gas field machinery and tools, sold separately, including parts for portable drilling rigs, but excluding parts for other drilling equipment	.....	20	(X)	53.2	(X)	39.3
35333 98	Other oil and gas field production machinery and tools	.....	41	(X)	42 285.3	(X)	41 121.5
35333 00	Oil and gas field production machinery and equipment, except pumps, n.s.k	.....	(NA)	(X)	8.1	(X)	3.0
35334 --	Other oil and gas field machinery and tools, except pumps, including water well	.....	(NA)	(X)	520.6	(X)	113.6
	Portable drilling rigs, permanently mounted on truck or trailer:						
	Oil and gas field:						
35334 11	Cable tool	Number	5	212	22.5	140	7.2
35334 13	Rotary rigs	.....	10	590	129.2	(S)	39.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	OIL FIELD MACHINERY--Con.						
35334 --	Other oil and gas field machinery and tools, except pumps, including water well--Con.						
	Portable drilling rigs, permanently mounted on truck or trailer--Con.						
	Water well and blast hole:[43]						
35334 16	As reported in census of manufactures	.....	19	(S)	235.1	(S)	[43]17.2
	As reported in Current Industrial Reports MQ-35D, Construction Machinery	.....	(NA)	1,735	226.7	70.2	39.8
	Crawler mounted, all types, including rotary, churn, and air-trac types:						
35334 22	Up to and including 80,000 pounds down pressure	Number.....	(NA)	478	62.6	702	39.8
35334 24	Over 80,000 pounds down pressure	.....	(NA)				
	Truck or wheel mounted, all types, including rotary, churn, and air-trac types:						
35334 26	Up to and including 40,000 pounds down pressure	.....	(NA)	1,257	164.1		
35334 27	Over 40,000 pounds down pressure	Number.....	(NA)				
35334 21	Derricks, oil and gas field, substructures, and accessories--regular and portable, including equipment shipped "knocked down" and assembled on site	Number.....	12	(S)	46.3	(S)	34.0
35334 31	Well surveying machinery and equipment	.....	7	(X)	78.3	(X)	8.9
35334 00	Other oil and gas field machinery and tools, except pumps, including water well, n.s.k.	.....	(NA)	(X)	9.3	(X)	7.2
35330 00	Oil field machinery, n.s.k., typically for eatablishments with 5 employees or more (see note)	.....	(NA)	(X)	93.2	(X)	44.1
35330 02	Oil field machinery, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	65.4	(X)	10.6
	ELEVATORS AND MOVING STAIRWAYS						
3534- --	Total	.....	(NA)	(X)	435.1	(X)	412.2
35340 --	Elevators and moving stairways:						
	Elevators, except portable:						
	Electric passenger, except residence lifts:						
35340 05	Geared	Number.....	13	2,985	68.0	6,263	96.1
35340 07	Gearless		7	848	64.4	2,116	78.0
35340 12	Hydraulic passenger		16	5,187	73.8	4,713	45.2
35340 13	Electric freight		6	288	7.4	523	5.8
35340 15	Hydraulic freight		13	**657	9.3	1,195	15.6
35340 31	Automobile lifts (service station and garage type)		10	29,520	43.6	46,004	33.1
35340 51	Moving stairways and escalators		5	*899	36.2	993	24.4
35340 96	Other nonfarm elevators, including sidewalk elevators, dumb waiters, man lifts, hand-operated freight elevators, residence lifts, etc	Number.....	24	(S)	38.6	(X)	30.4
35340 97	Parts and attachments for elevators and moving stairways (sold separately)	.....	22	(X)	47.4	(X)	42.3
35340 00	Elevators and moving stairways, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	27.4	(X)	39.0
35340 02	Elevators and moving stairways, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	18.9	(X)	2.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

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1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1977		
	CONVEYORS AND CONVEYING EQUIPMENT				
3535- --	Total	.....	(NA)	(X)	1,684.6
35353 --	Unit handling conveyors and conveying systems, except hoists and farm elevators	.....	(NA)	(X)	586.5
35353 09	Gravity conveyors (skate wheel and roller)	Thousands	34	(S)	60.1
35353 15	Trolley conveyors (overhead systems)		36	(S)	115.0
35353 17	Tow conveyors (underfloor systems)		12	(S)	14.7
	Powered conveyors (belt and roller):				
35353 21	Light to medium duty		69	(S)	153.0
35353 23	Heavy duty		39	(S)	98.2
35353 35	Pneumatic tube conveyors		10	(S)	48.8
35353 37	Portable conveyors, except farm		8	(S)	6.7
35353 45	All other, such as pallet conveyors, etc	Thousands	42	(S)	73.4
35353 00	Unit handling conveyors and conveying systems, except hoists and farm elevators, n.s.k	.....	(NA)	(X)	16.7
35354 --	Parts, attachments, and accessories for unit handling conveyors and conveying systems (sold separately):				
35354 15	Parts, attachments, and accessories for unit handling conveyors and conveying systems (sold separately)	.....	47	(X)	73.1
35355 --	Bulk material handling conveyors and conveying systems, except hoists and farm elevators	.....	(NA)	(X)	640.2
	Conveyors and elevators:				
35355 05	Belt conveyors and systems	Thousands	92	(S)	210.6
35355 09	Screw conveyors		35	(S)	55.5
35355 11	Bucket elevators		39	(S)	25.4
35355 15	Pneumatic conveyors		19	(S)	80.6
35355 19	Portable conveyors, except farm		12	(S)	15.8
35355 23	En masse conveyors		D	(S)	8.9
35355 27	Vibrating conveyors		19	(S)	26.7
35355 31	All other, such as apron, flight, and drag conveyors, etc		35	(S)	79.5
	Unloading and reclaiming systems:				
35355 41	Bucket wheel reclaimers		5	(S)	(44)
35355 43	Vibrating feeders		14	(S)	18.2
35355 45	All other, such as bins, apron feeders, gates, etc		21	(S)	44 56.9
	Loading and storing systems:				
35355 51	Traveling stackers		10	(S)	30.4
35355 55	All other, such as trippers, centrifugal throwers, etc	Thousands	9	(S)	6.2
35355 00	Bulk material handling conveyors and conveying systems, except hoists and farm elevators, n.s.k	.....	(NA)	(X)	25.4
35356 --	Parts, attachments, and accessories for bulk material handling conveyors and conveying systems, sold separately	.....	(NA)	(X)	204.4
35356 11	Belt conveyor idlers	.....	10	(X)	50.2
35356 25	Belt conveyor pulleys	.....	10	(X)	21.1
35356 37	All other parts, attachments, and accessories, sold separately	.....	53	(X)	126.6
35356 00	Parts, attachments, and accessories for bulk material handling conveyors and conveying systems, sold separately, n.s.k	.....	(NA)	(X)	6.5
35350 00	Conveyors and conveying equipment, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	88.0
35350 02	Conveyors and conveying equipment, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	92.4
			1972		
	CONVEYORS AND CONVEYING EQUIPMENT				
3535- --	Total	.....	(NA)	(X)	825.6
35351 --	Conveyors and conveying equipment, except hoists and farm elevators	.....	(NA)	(X)	658.8
35351 11	Gravity conveyors (skate wheel and roller)	.....	(NA)	(X)	32.3
	Trolley/tow conveyor systems:				
35351 31	Overhead systems	.....	(NA)	(X)	68.1
35351 33	Underfloor systems	.....	(NA)	(X)	11.2
35351 41	Pneumatic tube systems, including foot-power units	.....	(NA)	(X)	59.2
35351 51	Portable conveyors, except farm	.....	(NA)	(X)	20.2
35351 61	Underground mine conveyors and conveying systems	.....	(NA)	(X)	
	Other conveyors and conveying systems, including specially engineered conveyor installations:				
	Bulk material conveyors:				
35351 65	Belt conveyors and systems for bulk materials	.....	(NA)	(X)	139.4
35351 66	Screw conveyors	.....	(NA)	(X)	35.2
35351 68	Bucket elevators	.....	(NA)	(X)	14.1
35351 69	Other bulk material conveyors, including apron conveyors, except screw, bucket, and belt conveyors	.....	(NA)	(X)	72.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
				1972--Con.	
3535- --	CONVEYORS AND CONVEYING EQUIPMENT--Con.				
35351 --	Conveyors and conveying equipment, except hoists and farm elevators--Con.				
	Other conveyors and conveying systems, including specially engineered conveyor installations--Con.				
	Unit conveyors:				
35351 72	Package-type conveyors	.....	(NA)	(X)	122.8
35351 74	Heavy-type conveyors	.....	(NA)	(X)	39.2
35351 00	Conveyors and conveying equipment, except hoists and farm elevators, n.s.k.	.....	(NA)	(X)	45.1
35352 --	Parts, attachments, and accessories for conveyors and conveying systems, sold separately:				
35352 11	Parts, attachments, and accessories for conveyors and conveying systems, sold separately	.....	(NA)	(X)	107.1
35350 00	Conveyors and conveying equipment, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	46.9
35350 02	Conveyors and conveying equipment, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	12.8

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	HOISTS, CRANES, AND MONORAILS						
3536- --	Total	.....	(NA)	(X)	901.3	(X)	446.0
35361 --	Hoists	.....	(NA)	(X)	404.1	(X)	167.4
35361 11	Hand chain hoists, ratchet lever, and wire rope pullers	Thousands	18	510.4	50.6	226.9	27.2
35361 13	Electric chain hoists (roller and link)	Thousands	10	44.7	26.4	57.2	13.8
35361 14	Mine shaft and slope electric wire-rope hoists, drum or friction, electric or hydraulic, excluding tuggers, sheaves, skips, cages, and buckets:						
	As reported in the census of manufactures	.....	7	(X)	10.5	(X)	([4]5)
	As reported in Current Industrial Reports MA-35F, Mining Machinery and Equipment	Thousands	(NA)	.4	10.5	(X)	(D)
35361 16	Electric wire rope hoists		22	14.3	60.4	(X)	28.3
35361 33	Air chain hoists		7	15.4	8.6	(S)	8.7
35361 35	Air wire rope hoists		8	*3.9	7.8	(S)	4.2
35361 38	Other hoists	Thousands	43	(S)	151.7	(X)	[4]5 51.8
35361 45	Parts and attachments for hoists (sold separately)	.....	30	(X)	68.4	(X)	23.6
35361 00	Hoists, n.s.k.	.....	(NA)	(X)	19.7	(X)	9.8
35362 --	Overhead traveling cranes and monorail systems	.....	(NA)	(X)	426.8	(X)	253.5
	Cranes, except construction power cranes:						
	Electric overhead traveling:						
	Bridge type:						
35362 07	Single top running bridge type	Thousands	21	**1.7	58.6	4.1	104.0
35362 08	Double top running bridge type		33	(S)	160.1		
35362 09	Under running bridge type		23	(S)	23.2		
35362 11	Gantry type		16	(S)	9.3	.9	46.8
35362 13	Stacker/storage type		6	(S)	9.4	.6	13.0
35362 14	Other, including jib type		14	(S)	15.3	5.7	8.6
35362 15	Other overhead traveling		12	(S)	15.2	.3	.9
35362 41	Automatic stacking machines		13	(S)	23.7	(S)	[4]6 25.6
	Monorail systems:						
	Powered systems:						
35362 51	Engine (internal combustion) powered systems		2	(S)	32.6	5.7	21.1
35362 53	All other powered, including electric		10				
35362 54	Manual systems	Thousands	3	.3	1.0	3.1	3.9
35362 55	Parts and attachments for overhead traveling cranes and monorail systems (sold separately)	.....	21	(X)	42.1	(X)	19.9
35362 57	Parts and attachments for automatic stacking machines	.....	11	(X)	18.2	(X)	([4]6)
35362 00	Overhead traveling cranes and monorail systems, n.s.k.	.....	(NA)	(X)	18.1	(X)	9.7
35360 00	Hoists, cranes, and monorails, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	40.1	(X)	19.0
35360 02	Hoists, cranes, and monorails, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	30.3	(X)	6.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	INDUSTRIAL TRUCKS AND TRACTORS						
3537- --	Total	.....	(NA)	(X)	1,799.9	(X)	1,004.8
35371 --	Industrial trucks, tractors, and mobile straddle carriers and cranes	.....	(NA)	(X)	1,233.8	(X)	729.5
	Powered trucks and tractors:						
35371 11	Motorized hand trucks, pedestrian controlled	Thousands	8	10.4	31.8	29.9	49.4
	Industrial trucks (operator riding) and tractors:						
	Electric (storage battery, gas-electric, gasoline-electric, diesel-electric, or tethered electric) powered:						
35371 23	Trucks, industrial		28	35.5	340.1	19.2	156.8
35371 27	Tractors, industrial		2	(47)	(47)	(S)	13.6
	Internal combustion powered:						
	Trucks, industrial:						
35371 36	Under 6,000 lb. capacity		10	25.2	305.3	28.0	199.3
35371 37	6,000 to 14,999 lb capacity		11	13.5	223.2	21.5	127.6
35371 38	15,000 lb capacity and over		6	2.2	87.1	2.6	58.2
35371 43	Tractors, industrial		4	471.9	4711.3	2.8	9.4
35371 48	Other powered trucks (operator riding) and tractors, including compressed-air powered, etc		4	(S)	26.7	(X)	(48)
35371 51	Portable elevators (stackers), excluding farm type		3	(49)	(49)	(S)	4.5
35371 55	Mobile straddle carriers and cranes		8	.2	36.6	(50)	(50)
	Hand trucks and trailers, including dollies and platform trucks:						
35371 61	Hand lift	Thousands	7	(S)	9.2	(S)	4.1
35371 65	Other hand trucks and trailers, including two-wheel and four-wheel dollies and platform trucks	.....	44	(X)	58.8	(X)	53.6
35371 71	Metal pallets and skids, excluding wood and metal combination	Thousands	6	(49)	(49)	(S)	11.0
35371 75	Palletizers and depalletizers (pallet loaders and unloaders)	.....	9	(X)	8.1	(S)	11.7
	Hydraulic lift tables (electro-hydraulic lift platforms):						
35371 81	Scissors type	Thousands	6	(S)	13.9	(50)	(50)
35371 83	Other types		5	(S)	6.2	(50)	(50)
35371 85	Dock boards (industrial loading ramps, hinged loading ramps)		4	(S)	4.8	(50)	(50)
35371 98	All other industrial trucks and tractors	Thousands	11	(S)	4934.3	(NA)	4830.3
35371 00	Industrial trucks, tractors, and mobile straddle carriers and cranes, n.s.k.	.....	(NA)	(X)	36.7	(X)	-
35372 --	Parts and attachments for industrial trucks, tractors, and mobile straddle carriers and cranes	.....	(NA)	(X)	378.2	X)	50171.4
35372 11	Cabs for industrial trucks and tractors	.....	8	(X)	12.7		
35372 85	All other parts and attachments	.....	62	(X)	361.0	(X)	50171.4
35372 00	Parts and attachments for industrial trucks, tractors, and mobile straddle carriers and cranes, n.s.k.	.....	(NA)	(X)	4.5		
35370 00	Industrial trucks and tractors, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	106.1	(X)	90.3
35370 02	Industrial trucks and tractors, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	81.8	(X)	13.6

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in codes ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figures is replaced by (S).

[3]For 1977, data for wheel tractors for use as a towing unit included rubber-tired dozers.

[4]Totals include value of products withheld to avoid disclosing operations of individual companies.

[5]For 1972, product class 35314 total, as reported in census of manufactures, included $8.2 million not specified by kind.

[6]For 1972, product class 35314 total, as reported in CIR MA-35D, excluded product codes 35314 81 through 35314 92, since they were collected only in census of manufactures.

[7]For 1972, quantity and value totals for excavators excluded product codes 35314 61 and 35314 53.

[8]For 1972, both totals for excavators and product code 35314 23 excluded data for over 1 cu. yd. capacity hydraulic operated truck or wheel (rubber mounted) excavators.

[9]For 1972, quantity and value totals for cranes excluded product code 35314 30.

[10]For 1972, product class 35316 total, as reported in census of manufactures, included $6.3 million for other products, such as aggregate spreaders and soil stabilization pavers and $5.1 million for mixers, pavers, and related equipment, excluding parts not specified by kind.

[11]For 1972, product class 35316 total, as reported in CIR MQ-35D, excluded data for product codes 35316 12, 35316 31, 35316 34, and 35316 38, since they were collected only in census of manufactures.

[12]For 1977, product codes 35316 12, 35316 25, 35316 31, and 35316 38 were combined to avoid disclosing operations of individual companies.

[13]For 1972, product codes 35316 17, 35316 18, 35316 19, 35316 20, and 35316 23 were not collected separately.

[14]For 1972, CIR MA-35D included front engine mount, integral design tractor shovel loaders/backhoes at an undisclosed value.

Footnotes are continued on next page.

[15]For 1977, product codes 35317 03, 35317 04, 35317 11, and 35317 12 were combined to avoid disclosing operations of individual companies.
[16]For 1972, product code 35317 30 was not collected separately.
[17]For 1972, product code 35318 00, as reported in CIR MQ-35D, included $0.4 million for all other rollers.
[18]Excludes value of prime mover when sold with machine.
[19]For 1972, data included cable and hydraulic power control units of an undisclosed amount.
[20]Excludes loaders shipped for mounting on tracklaying type shovel loaders, integral unit.
[21]For 1977, product codes 35318 88, 35318 89, and 35318 91 were combined to avoid disclosing operations of individual companies.
[22]For 1972, product codes 35318 90 and 35318 91 were not collected separately.
[23]For 1977, product codes 35318 84 and 35318 93 were combined to avoid disclosing operations of individual companies.
[24]For 1977, portable surface type water well and blast hole drills were included in Industry 3533, Oil Field Machinery, in product code 35334 16 at a total value of $235.1 million.
[25]For 1977, product code 35319 06 was combined with product code 35319 98 to avoid disclosing operations of individual companies.
[26]For 1972, product codes 35319 06 and 35319 07 were included with product code 35319 98.
[27]For 1972, product code 35319 20, as reported in census of manufactures, included product codes 35319 30 and 35319 70.
[28]For 1977, CIR MQ-35D included portable water well and blast hole drills in product class 35319 at a value of $213.5 million. However, these products are properly classified in Industry 3533, Oil Field Machinery.
[29]For 1972, product code 35319 83 included well point systems.
[30]For 1972, product classes 35325 and 35326 as reported in census of manufactures were combined.
[31]For 1977, product codes 35325 14, 35325 18, 35325 32 and 35325 34 were combined with product code 35325 38 to avoid disclosing operations of individual companies.
[32]For 1977, product codes 35325 47, 35325 71, 35325 72, 35325 73, and 35325 74 were combined with product code 35325 79.
[33]For 1972, product codes 35325 76, 35325 77, 35325 78, 35325 72, 35325 73, and 35325 79 were not collected separately.
[34]For 1972, product codes 35326 53, 35326 58, 35326 63, 35326 64, and 35326 65 were included with product code 35326 69.
[35]For 1977, rubber-tired rock drills (percussion type) and product code 35328 43 were combined with code 35328 98.
[36]For 1972, construction rock drills with 12.2 thousand units valued at $17.7 million were included with product code 35329 41.
[37]For 1972, product code 35328 98 included surface (blast hole) rotary drills, whose quantity was 211 units, value at $27.7 million. For 1977, these drills were included in Industry 3533, Oil Field Machinery.
[38]For 1977, data for product codes 35331 42 and 35331 49 were combined to avoid disclosing operations of individual companies.
[39]For 1972, data for product codes 35331 43 and 35331 49 were combined to avoid disclosing operations of individual companies.
[40]For 1977 and 1972, data for product codes 35332 31 and 35332 98 were combined to avoid disclosing operations of individual companies.
[41]For 1972, data for product codes 35333 53 and 35333 98 were combined to avoid disclosing operations of individual companies.
[42]For 1977, data for product codes 35333 55 and 35333 98 were combined to avoid disclosing operations of individual companies.
[43]For 1972, data for portable water well and blast hole drilling rigs were also contained in Industry 3531, Construction Machinery, under product code 35319 30 at an undisclosed amount.
[44]For 1977, product codes 35355 41 and 35355 45 were combined to avoid disclosing operations of individual companies.
[45]For 1972, product code 35361 14 was combined with product code 35361 38 to avoid disclosing operations of individual companies.
[46]For 1972, product code 35362 57 was combined with product code 35362 41 to avoid disclosing operations of individual companies.
[47]For 1977, product code 35371 27 was included with product code 35371 43 to avoid disclosing operations of individual companies.
[48]For 1972, product code 35371 48 was included with product code 35371 98.
[49]For 1977, product codes 35371 51 and 35371 71 were included with product code 35371 98 to avoid disclosing operations of individual companies.
[50]For 1972, product codes 35371 55, 35371 81, 35371 83, and 35371 85 were included with product class 35372 total.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35311, WHEEL TRACTORS, CONTRACTORS' OFF HIGHWAY		
United States	453.6	251.5
West South Central Division:		
Texas	27.0	CC
35313, PARTS FOR TRACTORS AND TRACTOR SHOVEL LOADERS		
United States	1,818.0	865.7
East North Central Division:		
Ohio	86.1	48.9
Indiana	15.7	EE
Illinois	863.2	359.2
Michigan	133.1	GG
Wisconsin	114.3	89.9
35314, POWER CRANES, DRAGLINES, SHOVELS, AND EXCAVATORS		
United States	2,260.5	914.2
East North Central Division:		
Ohio	321.6	120.7
Indiana	94.0	66.9
Illinois	202.2	FF
Wisconsin	659.4	204.4
West North Central Division:		
Minnesota	104.5	57.1
Iowa	265.5	145.9
Kansas	5.8	BB
West South Central Division:		
Texas	15.7	13.2
Pacific Division:		
California	3.5	6.7
35316, MIXERS, PAVERS, AND RELATED EQUIPMENT		
United States	304.8	252.0
Middle Atlantic Division:		
New York	10.3	4.9
Pennsylvania	9.2	11.7
East North Central Division:		
Ohio	26.9	26.2
Illinois	66.1	61.0
Wisconsin	25.5	29.0
West North Central Division:		
Minnesota	5.8	4.0
West South Central Division:		
Texas	13.9	CC
Pacific Division:		
California	51.1	FF
35317, TRACTOR SHOVEL LOADERS		
United States	1,537.2	810.7
West North Central Division:		
Minnesota	38.0	(NA)
35318, SCRAPERS, GRADERS, ROLLERS, OFF HIGHWAY TRUCKS		
United States	1,723.8	964.8
East North Central Division:		
Ohio	209.7	124.0
Illinois	869.5	414.5
Wisconsin	15.9	FF
West North Central Division:		
Minnesota	35.8	32.7
Nebraska	17.4	CC
West South Central Division:		
Oklahoma	113.3	FF
Texas	42.8	40.3
Pacific Division:		
Washington	22.4	EE
California	17.3	FF

Product class and geographic area	Value of product shipments	
	1977	1972
35319, CONSTRUCTION MACHINERY AND EQUIPMENT, N.E.C.[1]		
United States	2,002.2	913.0
New England Division:		
Massachusetts	11.1	6.3
Connecticut	13.8	DD
Middle Atlantic Division:		
New York	18.2	9.2
Pennsylvania	79.4	24.9
East North Central Division:		
Ohio	159.4	126.3
Indiana	39.7	14.0
Illinois	423.8	128.7
Michigan	70.6	50.5
Wisconsin	203.6	133.4
West North Central Division:		
Minnesota	102.0	52.6
Iowa	209.1	29.3
Missouri	15.4	12.0
South Dakota	2.7	(NA)
Kansas	60.0	FF
South Atlantic Division:		
Virginia	29.0	DD
North Carolina	4.1	AA
Georgia	17.6	BB
East South Central Division:		
Tennessee	10.8	BB
Alabama	57.4	EE
West South Central Division:		
Louisiana	10.1	BB
Oklahoma	137.1	51.1
Texas	74.2	52.0
Pacific Division:		
Washington	46.5	30.8
Oregon	20.3	13.5
California	73.1	34.4
35325, UNDERGROUND MINING MACHINERY		
United States	432.1	[2]168.5
Middle Atlantic Division:		
Pennsylvania	154.0	GG
East North Central Division:		
Ohio	41.0	FF
Illinois	14.8	AA
South Atlantic Division:		
Virginia	56.3	DD
West Virginia	51.7	14.5
35326, MINERAL BENEFICIATION MACHINERY		
United States	100.9	[2]
West North Central Division:		
Iowa	5.5	[2]
35327, CRUSHING, PULVERIZING, AND SCREENING MACHINERY		
United States	181.9	101.3
Middle Atlantic Division:		
Pennsylvania	31.5	10.4
East North Central Division:		
Wisconsin	48.1	34.2
West North Central Division:		
Missouri	19.7	6.6

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35328, MINING MACHINERY AND EQUIPMENT, N.E.C.		
United States	120.5	93.5
Middle Atlantic Division:		
Pennsylvania	9.3	CC
East North Central Division:		
Ohio	9.2	9.1
South Atlantic Division:		
West Virginia	24.5	FF
35329, PARTS AND ATTACHMENTS FOR MINING MACHINERY		
United States	841.4	331.1
Middle Atlantic Division:		
Pennsylvania	169.3	87.0
East North Central Division:		
Ohio	134.4	24.5
Illinois	23.1	16.8
Michigan	5.8	CC
Wisconsin	86.2	FF
West North Central Division:		
Minnesota	11.6	AA
Missouri	15.0	AA
South Atlantic Division:		
Virginia	54.7	CC
West Virginia	45.1	10.7
East South Central Division:		
Kentucky	43.5	CC
West South Central Division:		
Texas	67.4	28.3
Mountain Division:		
Colorado	32.3	FF
Pacific Division:		
Oregon	4.7	BB
California	12.4	6.5
35331, ROTARY OIL AND GAS FIELD DRILLING MACHINERY		
United States	1,221.4	348.2
Middle Atlantic Division:		
Pennsylvania	23.3	CC
West South Central Division:		
Louisiana	14.5	12.3
Oklahoma	11.3	BB
Texas	870.6	245.9
Pacific Division:		
California	274.3	68.8
35332, OIL AND GAS FIELD DRILLING MACHINERY, EXCEPT ROTARY		
United States	208.3	87.0
West South Central Division:		
Oklahoma	12.7	CC
Texas	104.2	35.5
Pacific Division:		
California	71.3	FF
35333, OIL AND GAS FIELD PRODUCTION MACHINERY		
United States	1,110.5	376.5
West South Central Division:		
Louisiana	38.1	BB
Oklahoma	181.2	GG
Texas	720.5	231.5
35333, OIL AND GAS FIELD PRODUCTION MACHINERY--Con.		
Pacific Division:		
California	100.8	FF
35334, OIL AND GAS FIELD MACHINERY AND TOOLS, N.E.C.[1]		
United States	520.6	113.6
West South Central Division:		
Oklahoma	58.1	16.4
Texas	279.0	62.0
35353, UNIT HANDLING CONVEYING SYSTEMS, EXCEPT HOISTS		
United States	586.5	(NA)
Middle Atlantic Division:		
New York	19.0	(NA)
New Jersey	44.1	(NA)
Pennsylvania	38.4	(NA)
East North Central Division:		
Ohio	34.7	(NA)
Illinois	38.9	(NA)
Michigan	149.0	(NA)
Wisconsin	12.1	(NA)
West North Central Division:		
Iowa	4.0	(NA)
South Dakota	14.3	(NA)
South Atlantic Division:		
Virginia	3.6	(NA)
North Carolina	7.1	(NA)
Georgia	11.4	(NA)
Florida	7.5	(NA)
East South Central Division:		
Kentucky	49.6	(NA)
West South Central Division:		
Texas	3.3	(NA)
Mountain Division:		
Colorado	7.9	(NA)
Pacific Division:		
California	48.9	(NA)
35354, PARTS FOR UNIT HANDLING CONVEYORS		
United States	73.1	(NA)
East North Central Division:		
Michigan	23.0	(NA)
Pacific Division:		
California	3.5	(NA)
35355, BULK MATERIAL HANDLING CONVEYORS, EXCEPT HOISTS		
United States	640.2	(NA)
Middle Atlantic Division:		
New York	3.6	(NA)
New Jersey	16.8	(NA)
Pennsylvania	111.8	(NA)
East North Central Division:		
Ohio	53.7	(NA)
Indiana	8.4	(NA)
Illinois	108.2	(NA)
Michigan	27.9	(NA)
Wisconsin	15.2	(NA)
West North Central Division:		
Minnesota	14.0	(NA)
Iowa	6.0	(NA)
Missouri	9.8	(NA)
Kansas	40.0	(NA)

See footnotes at end of table.

Table 6b. **Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35355, BULK MATERIAL HANDLING COMOVEYORS, EXCEPT HOISTS--Con.		
South Atlantic Division:		
Virginia	32.6	(NA)
Florida	6.2	(NA)
East South Central Division:		
Kentucky	26.6	(NA)
Mississippi	13.4	(NA)
West South Central Division:		
Louisiana	[illegible].3	(NA)
Texas	50.3	(NA)
Pacific Division:		
Oregon	4.1	(NA)
California	19.2	(NA)
35356, PARTS FOR BULK MATERIAL HANDLING CONVEYORS		
United States	204.4	(NA)
Middle Atlantic Division:		
Pennsylvania	8.6	(NA)
East North Central Division:		
Ohio	12.4	(NA)
Indiana	3.2	(NA)
Illinois	19.8	(NA)
Michigan	19.0	(NA)
West North Central Division:		
Minnesota	3.5	(NA)
Iowa	17.7	(NA)
35361, HOISTS (INCLUDING PARTS AND ATTACHMENTS)		
United States	404.1	167.4
Middle Atlantic Division:		
New York	11.0	10.4
New Jersey	3.5	BB
Pennsylvania	49.9	CC
East North Central Division:		
Ohio	33.9	EE
Indiana	19.9	BB
Illinois	13.7	8.1
Michigan	29.1	15.0
Wisconsin	47.1	22.4
West North Central Division:		
Minnesota	12.5	4.5
Iowa	5.1	(NA)
South Atlantic Division:		
South Carolina	4.5	(NA)
West South Central Division:		
Oklahoma	23.6	CC
Texas	14.9	4.0
Pacific Division:		
California	18.5	EE
35362, OVERHEAD TRAVELING CRANES AND MONORAIL SYSTEMS		
United States	426.8	253.5
Middle Atlantic Division:		
Pennsylvania	15.0	4.7
35362, OVERHEAD TRAVELING CRANES AND MONORAIL SYSTEMS--Con.		
East North Central Division:		
Ohio	106.8	53.7
Indiana	4.5	(NA)
Illinois	45.1	EE
Michigan	34.8	21.2
South Atlantic Division:		
Virginia	5.8	AA
East South Central Division:		
Alabama	10.4	BB
West South Central Division:		
Texas	27.1	EE
Pacific Division:		
Washington	14.2	[illegible]
California	13.2	39.7
35371, INDUSTRIAL TRUCKS, TRACTORS, STRADDLE CARRIERS		
United States	1,233.8	729.5
Middle Atlantic Division:		
New York	60.2	FF
Pennsylvania	53.3	GG
East North Central Division:		
Ohio	225.2	105.4
Indiana	13.8	CC
Illinois	211.0	140.9
Wisconsin	16.7	9.6
West North Central Division:		
Minnesota	22.4	15.3
Iowa	13.3	11.4
Kansas	11.6	[illegible]
South Atlantic Division:		
Georgia	5.6	CC
Florida	6.2	CC
West South Central Division:		
Texas	22.0	CC
Pacific Division:		
Oregon	71.8	40.9
California	49.6	30.8
35372, PARTS FOR INDUSTRIAL TRUCKS AND TRACTORS		
United States	378.2	171.4
Middle Atlantic Division:		
New York	15.1	CC
East North Central Division:		
Ohio	100.3	33.3
Indiana	6.6	AA
Illinois	58.7	49.0
Michigan	42.7	24.3
West North Central Division:		
Iowa	5.0	(NA)
East South Central Division:		
Kentucky	14.4	(NA)
Pacific Division:		
Washington	6.1	AA
California	9.1	CC

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE-- $10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(NA) Not available. N.E.C. Not elsewhere classified.

[1]For 1972, data for portable water well and blast hole drilling rigs were contained in either product class 35319 or product class 35334. For 1977, data for these rigs were contained in product class 35334 only.

[2]For 1972, product classes 35325 and 35326 as reported in the census of manufactures were combined.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3531-	Construction machinery	11,569.9	9,727.4	9,686.1	8,570.9	6,893.7	5,653.6	3,766.6	2,624.2
35311	Wheel tractors, contractors' off highway	453.6	299.8	380.7	372.8	328.2	251.5	132.3	102.7
35312	Tracklaying tractors	1,164.6	1,060.8	1,128.1	897.3	712.6	564.0	389.9	317.4
35313	Parts for tractors and tractor shovel loaders	1,818.0	1,686.0	1,827.6	1,553.0	1,113.6	865.7	604.2	302.7
35314	Power cranes, draglines, shovels, and excavators	2,260.5	2,248.6	1,722.0	1,447.2	1,183.1	914.2	656.5	464.8
35316	Mixers, pavers, and related equipment	304.8	233.1	208.8	263.1	287.9	252.0	162.3	132.0
35317	Tractor shovel loaders	1,537.2	1,141.1	1,279.6	1,228.5	943.9	810.7	411.6	388.0
35318	Scrapers, graders, rollers, off highway trucks	1,723.8	1,419.8	1,554.9	1,341.0	1,139.1	964.8	711.4	480.0
35319	Construction machinery and equipment, n.e.c.[2]	2,002.2	1,624.0	1,560.9	1,434.0	1,068.8	913.0	613.9	403.5
35310	Construction machinery, n.s.k.	305.1	(S)	(23.5)	(34.0)	116.5	117.7	84.5	33.2
3532-	Mining machinery	1,785.6	1,835.0	1,657.0	1,147.7	841.1	729.8	521.5	336.2
35325	Underground mining machinery	432.1	496.2	409.2	(215.5)	164.1	168.5	101.4	73.6
35326	Mineral beneficiation machinery	100.9							
35327	Crushing, pulverizing, and screening machinery	181.9	219.8	192.2	132.1	123.2	101.3	78.5	58.0
35328	Mining machinery and equipment, n.e.c.	120.5	(190.1)	254.4	188.4	122.8	93.5	50.1	39.3
35329	Parts and attachments for mining machinery	841.4	911.6	771.0	580.2	392.6	331.1	257.2	158.0
35320	Mining machinery, n.s.k.	108.8	(17.2)	(30.2)	(31.5)	(38.4)	35.4	34.3	7.3
3533-	Oil field machinery	3,219.4	2,636.3	2,412.0	1,713.9	1,210.5	980.0	660.7	572.7
35331	Rotary oil and gas field drilling machinery	1,221.4	1,092.4	953.8	635.2	460.9	348.2	243.5	217.2
35332	Oil and gas field drilling machinery, except rotary	208.3	225.4	232.8	162.1	127.5	87.0	43.5	38.8
35333	Oil and gas field production machinery	1,110.5	970.3	912.6	661.7	441.8	376.5	260.5	261.5
35334	Oil and gas field machinery and tools, n.e.c.[2]	520.6	334.9	301.5	238.4	131.5	113.6	65.4	43.3
35330	Oil field machinery, n.s.k.	158.6	(13.3)	(S)	(16.5)	48.8	54.7	47.9	11.9
35340	Elevators and moving stairways	435.1	396.2	387.6	461.6	446.8	412.2	295.9	248.2
3535-	Conveyors and conveying equipment	1,684.6	1,384.9	1,332.8	1,284.7	1,003.5	825.6	655.4	414.9
35353	Unit handling conveying systems, except hoists	586.5	([3])	([3])	([3])	([3])	([3])	([3])	([3])
35354	Parts for unit handling conveyors	73.1	([4])	([4])	([4])	([4])	([4])	([4])	([4])
35355	Bulk material handling conveyors, except hoists	640.2	[3]1,084.5	[3]1,027.4	[3]987.3	[3]802.3	[3]658.8	[3]478.9	[3]306.2
35356	Parts for bulk material handling conveyors	204.4	[4]280.1	[4]264.2	[4]236.1	[4]138.0	[4]107.1	[4]118.6	[4]88.0
35350	Conveyors and conveying equipment, n.s.k.	180.4	(S)	(41.3)	(61.3)	63.2	59.7	57.9	20.7
3536-	Hoists, cranes, and monorails	901.3	809.2	755.8	603.2	531.1	446.0	385.3	224.2
35361	Hoists (including parts and attachments)	404.1	368.5	356.3	308.2	247.0	167.4	144.9	105.0
35362	Overhead traveling cranes and monorail systems	426.8	424.7	389.6	285.4	253.4	[5] [6]253.5	215.1	115.7
35360	Hoists, cranes, and monorails, n.s.k.	70.4	(16.0)	(S)	(9.6)	30.7	25.1	25.3	3.5
3537-	Industrial trucks and tractors	1,799.9	1,340.7	1,302.3	1,525.9	1,230.6	[6]1,004.8	780.7	458.7
35371	Industrial trucks, tractors, straddle carriers	1,233.8	955.0	948.8	1,150.6	891.0	729.5	(NA)	(NA)
35372	Parts for industrial trucks and tractors	378.2	372.3	308.3	330.7	244.9	171.4	(NA)	(NA)
35370	Industrial trucks and tractors, n.s.k.	187.9	(S)	(45.2)	(44.6)	94.7	103.9	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]For 1976 and prior years, data for portable water well and blast hole drilling rigs were contained in either product class 35319 or 35334. For 1977, data for these rigs were contained in product class 35334 only.

[3]For 1976 and prior years, data for product classes 35353 and 35355 were combined.

[4]For 1976 and prior years, data for product classes 35354 and 35356 were combined.

[5]Individual product codes included in this product class for 1972 differ from 1967 definition. Products shifting into or out of this product class represent approximately 10 percent of total 1967 shipments at U.S. level.

[6]For 1972 and later years, data for automatic stacking machines and parts and attachments for automatic stacking machines were included in product class 35362. Prior to 1972, data for these products were included in industry 3537 and were not available separately.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3531, CONSTRUCTION MACHINERY					
	Materials, parts, containers, and supplies	.....	(X)	6,186.6	(X)	2,813.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**328.0	131.2	301.9	82.2
331012	Sheet and strip		*270.1	91.3	178.1	37.6
331013	Plates		1,291.2	462.5	853.5	170.7
331015	Structural shapes		*321.5	111.9	157.5	33.7
331017	Wire and wire products		(S)	9.9	6.4	3.1
331019	All other carbon steel mill shapes and forms		*264.2	124.4	204.1	49.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*81.7	63.3	55.8	18.5
331029	All other alloy steel mill shapes and forms		113.8	61.9	120.2	36.6
	Stainless steel:					
331033	Sheet and strip		(S)	2.2	.3	.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	5.0	.5	1.0
	Copper and copper-base alloy:					
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content).	3.7	4.6	2.7	2.4
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	**1.9	1.7	(S)	.8
335143	Plate, sheet, and strip, including military cups and discs		(S)	.1	.4	.3
335152	Pipe and tube		**4.1	4.8	9.9	3.5
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*1.9	1.8	1.9	1.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	11.9	1.5	1.1
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)				.3	.4
339915	Metal powders	Million lb.....	17.2	9.9	(2)	(2)
331051	Pig iron, excluding silvery iron	1,000 s. tons..	3.0	.6	16.1	1.3
999811	Iron and steel scrap, excluding home scrap		82.8	9.8	142.7	6.2
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*270.2	344.8	240.7	128.4
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*188.6	347.9	182.2	137.2
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	56.3	42.2	(S)	13.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	3.3	2.7	3.3
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	342.5	337.7	281.7	156.9
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands.....	100.0	493.6	69.2	209.9
	Produced and consumed		(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor:					
	Purchased		*91.4	51.8	66.4	25.1
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators, 1 hp and over:					
	Purchased		**64.7	88.7	66.4	29.2
	Produced and consumed		(S)	(X)	(S)	(X)
349401	Valves and rope fittings, except plumbers' brass goods and fittings		(X)	55.6	(X)	3 37.0
356101	Pump and pump parts, including hydraulic fluid power pumps		(X)	114.4	(4)	(4)
	Bearings:					
356218	Ball		(X)	50.0	(X)	19.9
356201	Roller		(X)	69.7	(X)	31.5
301131	Pneumatic tires	Thousands.....	7,417.0	202.3	(S)	89.4
356601	Speed changers, drives, and gears	.....	(X)	313.4	(2)	(2)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	19.8	(X)	3 11.0
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	12.3	(X)	3 24.0
307902	Fabricated plastics products, except gaskets	.....	(X)	6.0	(X)	3 4.0
345001	Bolts, nuts, screws, fasteners, rivets, and screw machine products	.....	(X)	83.2	(X)	3 48.0
346901	Metal stampings	.....	(X)	12.2	(X)	3 32.0
356301	Air and gas compressors, except refrigeration compressors	Thousands.....	(S)	22.7	(X)	3 4 73.0
344001	Fabricated structural metal products	.....	(X)	121.6	(X)	3 22.0
349012	Fabricated wire products, including wire rope, cable, springs, etc	.....	(X)	41.4	(X)	3 22.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	8.7	(X)	3 28.0
354501	Cutting tools for machine tools	.....	(X)	13.8	(X)	3 33.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	1,888.4	(X)	3 990.4
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	332.3	(X)	194.4

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3532, MINING MACHINERY					
	Materials, parts, containers, and supplies	.....	(X)	827.7	(X)	319.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	17.8	54.1	13.0
331012	Sheet and strip		(S)	6.0	(S)	3.3
331013	Plates		**104.2	40.3	74.4	16.0
331015	Structural shapes		(S)	7.8	15.4	3.8
331017	Wire and wire products		**10.2	4.8	.5	.5
331019	All other carbon steel mill shapes and forms		(S)	11.0	13.1	4.6
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	13.8	14.9	6.1
331029	All other alloy steel mill shapes and forms		(S)	13.5	3.9	2.3
	Stainless steel:					
331033	Sheet and strip		.7	1.5	.4	.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	1.7	4.8	.1	.2
	Copper and copper-base alloy:					
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content).	(S)	6.6	2.7	1.6
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	1.9	.3	.2
335143	Plate, sheet, and strip, including military cups and discs		(S)	.6		
335152	Pipe and tube		(S)	.7	.2	.2
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.4	.1	.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	.2	.9	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		(S)	.4		
339915	Metal powders	Million lb.....	4.7	56.2	(6)	(6)
331051	Pig iron, excluding silvery iron	1,000 s. tons..	*2.2	.4	5.7	.4
999811	Iron and steel scrap, excluding home scrap		(S)	.9	13.2	.6
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**16.5	22.8	(S)	9.8
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	39.1	22.3	21.4
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	.8	.3	.4
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		*.7	2.6	.7	1.0
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	(S)	23.9	13.8	11.0
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands.....	*1.5	8.7	1.0	4.8
	Produced and consumed		(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor:					
	Purchased		7.0	1.1	.8	.5
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators, 1 hp and over:					
	Purchased		(S)	35.4	11.9	12.4
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
349401	Valves and pipe fittings, except plumbers' brass goods and fittings	.....	(X)	5.7	(6)	(6)
356101	Pump and pump parts, including hydraulic fluid power pumps	.....	(X)	12.6	(4)	(4)
	Bearings:					
356218	Ball	.....	(X)	5.1	(X)	3.3
356201	Roller	.....	(X)	19.5	(X)	5.5
301131	Pneumatic tires	Thousands.....	(S)	6.7	9.6	1.5
356601	Speed changers, drives, and gears	.....	(X)	47.2	(6)	(6)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	3.0	(X)	3 1.0
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	3.7	(X)	3 6.0
307902	Fabricated plastics products, except gaskets	.....	(X)	.8	(6)	(6)
345001	Bolts, nuts, screws, fasteners, rivets, and screw products	.....	(X)	6.8	(X)	3 6.0
346901	Metal stampings	.....	(X)	1.2	(6)	(6)
356301	Air and gas compressors, except refrigeration compressors	Thousands.....	(X)	7.2	(X)	3 4 4.0
344001	Fabricated structural metal products	.....	(X)	32.5	(6)	(6)
349012	Fabricated wire products, including wire rope, cable, springs, etc	.....	(X)	5.3		
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	1.5	(X)	3 2.0
354501	Cutting tools for machine tools	.....	(X)	4.6	(X)	3 2.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	270.1	(X)	6 151.0
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	70.2	(X)	21.8

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972 – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3533, OIL FIELD MACHINERY					
	Materials, parts, containers, and supplies	.....	(X)	1,253.6	(X)	397.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	*119.3	65.3	46.1	11.4
331013	Plates		**74.5	29.2	40.9	9.1
331015	Structural shapes		*66.4	24.4	25.4	5.3
331019	All other carbon steel mill shapes and forms		(S)	65.6	26.6	8.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*172.4	92.6	118.8	38.3
331029	All other alloy steel mill shapes and forms		(S)	90.7	31.7	14.3
	Stainless steel:					
331033	Sheet and strip		*1.3	2.7	.2	.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	31.0	2.5	5.1
335105	Copper and copper-base alloy	Million lb.....	2.3	2.7	1.6	2.0
335001	Aluminum and aluminum-base alloy	Million lb.....	1.3	1.6	.9	1.4
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons..	29.1	33.7	9.0	6.5
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		46.1	77.7	21.4	18.5
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased	Million lb.....	(S)	3.0	.5	1.0
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
339915	Metal powders	Million lb.....	(S)	18.2	(7)	(7)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	48.0	57.4	16.7	14.8
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
351920	Engines, diesel and semidiesel:					
	Purchased	Thousands.....	4.8	47.6	1.2	9.1
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	4.8	(X)	6.9
356201	Rollers	.....	(X)	13.8	(X)	2.7
356810	Plain bearings and bushings	.....	(X)	1.6	(X)	37.0
356601	Speed changers, drives, and gears	.....	(X)	11.6		
362101	Electric motors, generators, and parts	Thousands.....	(X)	14.8	(7)	(7)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	17.7	(X)	38.0
307902	Fabricated plastics products, except gaskets	.....	(X)	4.0	(X)	34.0
349401	Valves and pipe fittings, except plumbers' brass goods and fittings	.....	(X)	40.4	(7)	(7)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	5.7	(X)	32.0
354501	Cutting tools for machine tools	.....	(X)	15.6	(X)	38.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	306.4	(X)	7113.0
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	119.8	(X)	100.8
	INDUSTRY 3534, ELEVATORS AND MOVING STAIRWAYS					
	Materials, parts, containers, and supplies	.....	(X)	191.2	(X)	166.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**12.4	5.0	21.6	4.7
331012	Sheet and strip		22.2	8.2	54.3	10.8
331013	Plates		(S)	4.9	15.0	3.3
331015	Structural shapes		*26.5	10.4	43.8	10.0
331017	Wire and wire products		(S)	.7	3.1	1.4
331019	All other carbon steel mill shapes and forms		14.0	7.3	9.2	2.5
331020	Alloy steel, except stainless		(D)	(D)	.9	.3
	Stainless steel:					
331033	Sheet and strip		(S)	4.9	1.5	1.5
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(Z)	.1	.1	.1
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content)..	1.9	1.8	5.6	3.5
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	*.9	2.0	.9	.8
335143	Plate, sheet, and strip, including military cups and discs				.7	.7
335152	Pipe and tube				(S)	.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	.5	.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(D)	(D)	1.1	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod, and bar, powder, welded tubing, etc.)	Million lb.....	(D)	(D)	.1	(Z)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3534, ELEVATORS AND MOVING STAIRWAYS--Con.					
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons..	*14.0	7.0	11.5	6.0
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		**3.8	4.7	2.5	2.1
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	**4.2	4.0	2.7	2.2
	Produced and consumed	Million lb.....	-	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	(Z)	(Z)	2.1	1.9
	Produced and consumed	1,000 s. tons..	-	(X)	(S)	(X)
351901	Gasoline and other carburetor engines:					
	Purchased	Thousands.....	-	-	.1	(Z)
	Produced and consumed		-	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors (under 1 hp), excluding timing motors:					
	Purchased		*39.8	1.5	42.2	2.0
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		*20.3	9.5	24.2	9.7
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	1.0	(X)	1.5
356201	Roller	.....	(X)	1.4	(X)	.6
369101	Storage batteries	Thousands.....	(S)	.1	-	-
356810	Plain bearings and bushings	.....	(X)	.2		
356601	Speed changers, drives, and gears	.....	(X)	2.6		
306902	Fabricated rubber products except tires, tubes, hose, belting, and gaskets	.....	(X)	.9		
360101	Electric transmission, distribution, and control equipment	.....	(X)	4.0		
301101	Pneumatic tires and inner tubes	.....	(X)	(Z)	(X)	73.7
359225	Pistons, piston rings, carburetors, valves (intake and exhaust only)	.....	(X)	(D)		
359901	Hydraulic cylinders and flexible metal hose	.....	(X)	1.4		
339915	Metal powders	Million lb.....	(Z)	(Z)		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	68.8		
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	24.8	(X)	26.6
	INDUSTRY 3535, CONVEYORS AND CONVEYING EQUIPMENT					
	Materials, parts, containers, and supplies	.....	(X)	644.4	(X)	309.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**84.0	34.3	75.0	16.8
331012	Sheet and strip		**104.2	36.5	83.2	17.2
331013	Plates		**67.6	23.0	73.0	15.0
331015	Structural shapes		**70.8	25.5	78.2	15.8
331017	Wire and wire products		(S)	6.9	6.5	2.1
331019	All other carbon steel mill shapes and forms		**40.0	17.3	36.3	11.1
331020	Alloy steel, except stainless		(S)	4.2	8.6	12.4
	Stainless steel:					
331033	Sheet and strip		(S)	9.2		
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	*6.6	8.0		
	Copper and copper-base alloy:					
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content).	(S)	.6	.6	.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb....	(Z)	.1	.1	.2
335143	Plate, sheet, and strip, including military cups and discs				.2	.3
335152	Pipe and tube		**3.8	1.7	7.6	.8
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and oil		**3.1	3.5	2.3	1.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	2.1	2.3	1.1
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	**.2	.2	.8	.4
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons..	(S)	17.8	9.5	6.1
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	4.8	1.7	2.0
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	3.9	1.7	1.6
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	(S)	10.6	6.3	4.3
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3535, CONVEYORS AND CONVEYING EQUIPMENT--Con.					
351901	Gasoline and other carburetor engines:					
	Purchased	Thousands	* .7	.4	(S)	.5
	Produced and consumed		(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors under 1 hp., excluding timing motors:					
	Purchased		(S)	8.0	55.5	4.5
	Produced and consumed		(S)	(X)	(S)	(S)
362120	Integral horsepower motors and generators, 1 hp. and over:					
	Purchased		(S)	13.9	33.8	4.7
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	10.2	(X)	8.4
356201	Roller		(X)	8.5	(X)	4.0
369101	Storage batteries	Thousands	(X)	(D)	(8)	(8)
356810	Plain bearings and bushings		(X)	2.9	(X)	[3]14.0
356601	Speed changers, drives, and gears		(X)	16.4		
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	3.6	(X)	[3]9.0
360101	Electric transmission, distribution, and control equipment		(X)	11.7	(8)	(8)
301101	Pneumatic tires and inner tubes		(X)	(D)	(X)	[3]3.0
359225	Pistons, piston rings, carburetors, valves (intake and exhaust only)		(X)	(D)	(X)	[3]2.0
359901	Hydraulic cylinders and flexible metal hose		(X)	3.5		
339915	Metal powders	Million lb	(S)	.1	(X)	[8]93.6
970099	All other materials, and components, parts, containers, and supplies		(X)	202.0		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	152.8	(X)	56.5
	INDUSTRY 3536, HOISTS, CRANES, AND MONORAILS					
	Materials, parts, containers, and supplies		(X)	345.7	(X)	224.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	**18.7	8.4	(S)	6.5
331012	Sheet and strip		(S)	8.2	20.8	4.7
331013	Plates		**51.8	19.2	111.3	22.4
331015	Structural shapes		(S)	13.3	43.7	9.6
331017	Wire and wire products		(S)	2.0	1.9	1.4
331019	All other carbon steel mill shapes and forms		(S)	4.6	16.9	5.0
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	3.9	4.5	1.7
331029	All other alloy steel mill shapes and forms		*2.9	1.6	8.2	2.6
	Stainless steel:					
331033	Sheet and strip		(D)	(D)	(S)	.9
331050	All other stainless steel mill shapes and forms	1,000 s. tons			.2	.3
	Copper and copper-base alloy:					
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content)	(S)	1.5	1.7	2.4
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	.3	.2	.5
335143	Plate, sheet, and strip, including military cups and discs		(S)	.5	.3	.2
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**.3	.3	(S)	.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*1.1	1.7	.6	.3
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welding tubing, etc.)					
339915	Metal powders	Million lb	(Z)	(Z)	(X)	(9)
331051	Pig iron, excluding silvery iron	1,000 s. tons	-	-	-	-
999811	Iron and steel scrap, excluding home scrap		-	-	-	-
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*7.0	7.5	(S)	6.4
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	9.9	(S)	7.8
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	X
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	2.7	3.3	2.8	2.6
	Produced and consumed		(S)	(X)	(S)	X
336200	Copper and copper-base alloy:					
	Purchased		(S)	.5	.4	.6
	Produced and consumed	Million lb	(S)	(X)	(S)	X
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	**2.3	2.7	4.7	3.9
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands	(D)	D	.1	.6
	Produced and consumed		(S)	(X)	(S)	X
351901	Gasoline and other carburetor:					
	Purchased		**2.7	1.8	1.2	.9
	Produced and consumed	Thousands	(S)	(X)	(S)	X

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3536, HOISTS, CRANES, AND MONORAILS--Con.					
362120	Integral horsepower electric motors and generators, 1 hp. and over:					
	Purchased	Thousands	*52.7	13.6	(S)	8.4
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
349401	Valves and pipe fittings, except plumbers' brass goods and fittings		(X)	2.1	(X)	(9)
356101	Pumps and pump parts, including hydraulic fluid power pumps		(X)	2.0	(X)	(9)
	Bearings:					
356218	Ball		(X)	2.6	(X)	4.3
356201	Roller		(X)	3.4		
301131	Pneumatic tires	Thousands	(D)	(D)	45.7	.7
356601	Speed changers, drives, and gears		(X)	7.4		
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	1.0		
306902	Fabricated rubber products, except tires, tubes, hose belting, and gaskets		(X)	.8		
307902	Fabricated plastics products, except gaskets		(X)	1.1		
345001	Bolts, nuts, screws, fasteners, rivets, and screw machine products		(X)	5.7		
346901	Metal stampings		(X)	1.0		
356301	Air and gas compressors, except refrigeration compressors	Thousands	(D)	(D)	(X)	9 95.6
344001	Fabricated structural metal products		(X)	14.9		
349012	Fabricated wire products, including wire rope, cable, springs, etc		(X)	5.6		
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	2.3		
354501	Cutting tools for machine tools		(X)	1.5		
970099	All other materials and components, parts, containers, and supplies		(X)	91.4		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	95.7	(X)	33.8
	INDUSTRY 3537, INDUSTRIAL TRUCKS AND TRACTORS					
	Materials, parts, containers, and supplies		(X)	945.3	(X)	469.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	125.2	38.8	97.6	18.5
331012	Sheet and strip		**30.4	9.9	65.5	13.6
331013	Plates		146.3	45.2	119.4	21.9
331015	Structural shapes		*36.9	14.2	35.2	9.1
331017	Wire and wire products		*1.7	.9	(S)	.8
331019	All other carbon steel mill shapes and forms		**57.5	18.5	18.1	5.1
331020	Alloy steel, except stainless		9.7	7.7	4.5	1.6
	Stainless steel:					
331033	Sheet and strip		(S)	.7	(S)	.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	.2	(S)	.4
	Copper and copper-base alloy:					
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content).	*1.5	3.5	(S)	1.1
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	.5	(S)	.5
335143	Plate, sheet, and strip, including military cups and discs		(Z)	(Z)	.1	.1
335152	Pipe and tube		(S)	1.5	(S)	.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		2.6	1.9	8.3	4.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	1.7		
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	**.2	.4	(S)	.9
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	48.4	34.3	(S)	18.7
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		**12.6	19.4	10.5	8.3
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	2.8	1.1	1.3
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	8.1	8.9	7.5	6.0
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor engines:					
	Purchased	Thousands	36.8	46.3	39.9	20.1
	Produced and consumed		(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors under 1 hp, excluding timing motors:					
	Purchased		(2)	(10)	16.7	1.1
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators, 1 hp and over:					
	Purchased		(S)	10 19.4	59.8	9.5
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3537, INDUSTRIAL TRUCKS AND TRACTORS--Con.					
	Bearings:					
356218	Ball	.....	(X)	3.7	(X)	3.4
356201	Roller	.....	(X)	6.3	(X)	5.6
369101	Storage batteries	Thousands	96.2	3.8	(S)	6.1
356810	Plain bearings and bushings	.....	(X)	5.9	(X)	[3]38.0
356601	Speed changers, drives, and gears	.....	(X)	64.7		
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	6.0	(X)	[3]4.0
360101	Electric transmission, distribution, and control equipment	.....	(X)	44.7	(X)	([11])
301101	Pneumatic tires and inner tubes	.....	(X)	10.5	(X)	[3]20.0
359225	Pistons, piston rings, carburetors, valves (intake and exhaust only)	.....	(X)	10.1	(X)	[3]23.0
359901	Hydraulic cylinders and flexible metal hose	.....	(X)	28.3		
339915	Metal powders	Million lb	(X)	303.0	(X)	[11]179.1
970099	All other materials and components, parts, containers, and supplies	.....				
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	181.6	(X)	46.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than $50,000 or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 339915 and 356601 were included in material code 970099.

[3]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[4]For 1972, material code 356101 was included with material code 356301.

[5]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[6]For 1972, material codes 339915, 349401, 356601, 307902, 346901, 344001, and 349012 were included in material code 970099.

[7]For 1972, material codes 339915, 362101, and 349401 were included in material code 970099.

[8]For 1972, material codes 369101 and 360101 were included with material code 970099.

[9]For 1972, material codes 339915, 349401, and 356101 were included in material code 970099.

[10]For 1977, material code 362115 was included with material code 362120 to avoid disclosing operations of individual companies.

[11]For 1977, material code 360101 was included with material code 970099.

Metalworking Machinery and Equipment

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DESCRIPTION OF INDUSTRIES

METALWORKING MACHINERY AND EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3541	Machine Tools, Metal Cutting Types
3542	Machine Tools, Metal Forming Types
3544	Special Dies, Tools, Jigs, and Fixtures
3545	Machine Tool Accessories
3546	Power Driven Hand Tools
3547	Rolling Mill Machinery
3549	Metalworking Machinery, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3541, MACHINE TOOLS, METAL CUTTING TYPES

This industry comprises establishments primarily engaged in the manufacture of machines, not supported in the hands of an operator when in use, that shape metal by cutting or use of electrical techniques; the rebuilding of such machine tools; and the manufacture of replacement parts for them. Metalworking, or primarily metalworking, machine tools designed primarily for home workshops are also included. Establishments primarily engaged in the manufacture of electric welding equipment are classified in industry 3623; portable power driven hand tools in industry 3546; and gas welding and cutting equipment and automotive maintenance equipment in industry 3549.

The total value of shipments for establishments classified in the Machine Tools, Metal Cutting Types, industry amounted to $2,813 million in 1977, an increase of 98 percent from 1972. The value of shipments of products classified as primary to the industry was $2,561 million, an increase of 103 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were lathes for which shipments increased 131 percent, and grinding and polishing machines (excluding gear tooth grinding, lapping, polishing, and buffing machines), for which shipments increased 71 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,866 million in 1977, was 107 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 59.4 thousand employees, an increase of 13 percent from 1972. The leading States in employment were Ohio, Michigan, Illinois, and New York, accounting for approximately 60 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 60 percent of the industry's employment.

The 1977 census obtained data on shipments of most types of metal cutting machine tools only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of most types of metal cutting machine tools are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-35W, Metalworking Machinery. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3542, MACHINE TOOLS, METAL FORMING TYPES

This industry comprises establishments primarily engaged in the manufacture of machines, not supported in the hands of an operator while in use, for pressing, hammering, extruding,

shearing, die casting, or otherwise forming metal into shape. This industry also includes rebuilding such machine tools and manufacturing repair parts for them. Establishments primarily engaged in the manufacture of electric welding equipment are classified in industry 3623, portable power driven hand tools in industry 3546; rolling mill machinery and equipment in industry 3547, and gas welding and cutting equipment and automotive maintenance equipment in industry 3549.

The total value of shipments for establishments classified in the Machine Tools, Metal Forming Types industry amounted to $1,131 million in 1977, an increase of 62 percent from 1972. The value of shipments of products classified as primary to the industry was $1,115 million, an increase of 66 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were punching, shearing, bending, and forming machines, for which shipments increased 83 percent, and metalworking presses (including forging and manual presses), for which shipments increased 54 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $722 million in 1977, was 73 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 23.7 thousand employees, a decrease of 2 percent from 1972. The leading States in employment were Illinois, Ohio, New York, and Michigan, accounting for approximately 65 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 65 percent of the industry's employment although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of most types of metal forming machine tools only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of most types of metal forming machine tools are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-35W, Metalworking Machinery. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3544, SPECIAL DIES, TOOLS, JIGS, AND FIXTURES

This industry includes establishments commonly known as contract tool and die shops and primarily engaged in manufacturing, on a job or order basis, special tools and fixtures for use with machine tools, hammers, die casting machines, and presses. The products of establishments classified in this industry include a wide variety of special toolings, such as dies; punches; die sets and components, and subpresses; jigs and fixtures; and special checking devices. Establishments primarily engaged in the manufacture of molds for die casting and foundry casting; metal molds for plaster working, rubber working, plastics working, glass working, and similar machinery are also included. Establishments primarily engaged in the manufacture of molds for heavy steel ingots are classified in industry 3321.

The total value of shipments for establishments classified in the Special Dies, Tools, Jigs, and Fixtures industry amounted to $3,905 million in 1977, an increase of 61 percent from 1972. The value of shipments of products classified as primary to the industry was $4,450 million, an increase of 64 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were stamping dies (including lamination and blanking dies), for which shipments increased 94 percent, and jigs and fixtures, for which shipments increased 89 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,790 million in 1977, was 55 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 105.7 thousand employees, an increase of 8 percent from 1972. The leading States in employment were Michigan, Ohio, Illinois, and Pennsylvania, accounting for approximately 55 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 55 percent of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 14 percent of total value of shipments.

INDUSTRY 3545, MACHINE TOOL ACCESSORIES

This industry comprises establishments primarily engaged in the manufacture of cutting tools, machinists' precision measuring tools, and tools for other metalworking machinery, not elsewhere classified. Establishments primarily engaged in the manufacture of hand tools, except power driven types, are classified in industry group 342.

The total value of shipments for establishments classified in the Machine Tool Accessories industry amounted to $2,383 million in 1977, an increase of 92 percent from 1972. The value of shipments of products classified as primary to the industry was $2,239 million, an increase of 94 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of

this change were indexible and throwaway inserts, for which shipments increased 112 percent, and carbon steel and high speed steel twist drills (excluding combined drills, countersinks, and gun drills), for which shipments increased 90 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,585 million in 1977, was 81 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 54.0 thousand employees, an increase of 16 percent from 1972. The leading States in employment were Michigan, Ohio, Massachusetts, and Illinois, accounting for approximately 60 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 60 percent of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3546, POWER DRIVEN HAND TOOLS

This industry comprises establishments primarily engaged in the manufacture of power driven hand tools, such as drills and drilling tools, pneumatic and snagging grinders, and electric hammers. Establishments primarily engaged in the manufacture of automotive maintenance equipment are classified in industry 3549; those primarily manufacturing machine tools for metal cutting and metal forming (including home workshop tools) which are not supported in the hands of an operator are classified in industries 3541 and 3542; and those primarily manufacturing power driven heavy construction or mining hand tools in industry group 353.

Plants primarily engaged in the manufacture of chain saws are tabulated in the Power Driven Hand Tools industry for the first time. In prior years, they were tabulated in Industry 3553, Woodworking Machinery. These establishments had 5.7 thousand employees and industry shipments valued at $431 million in 1977.

The total value of shipments for establishments classified in the Power Driven Hand Tools industry amounted to $1,623 million in 1977. The value of shipments of products classified as primary to the industry was $1,497 million. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture was $932 million in 1977. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 27.7 thousand employees. The leading States in employment were South Carolina, Illinois, Maryland, and North Carolina, accounting for approximately 40 percent of the industry's 1977 employment. Data for South Carolina, Maryland, and North Carolina have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3547, ROLLING MILL MACHINERY

This industry comprises establishments primarily engaged in the manufacture of rolling mill machinery and processing equipment for metal production, such as cold forming mills, structural mills, and finishing equipment.

The total value of shipments for establishments classified in the Rolling Mill Machinery industry amounted to $507 million in 1977, an increase of 55 percent from 1972. The value of shipments of products classified as primary to the industry was $361 million, an increase of 46 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were tube mill machinery, for which shipments increased 190 percent, and hot plate rolling mill machinery (except tin plate machinery), for which shipments increased 195 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $287 million in 1977, was 39 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.9 thousand employees, a decrease of 24 percent from 1972. The leading States in employment were Pennsylvania, Ohio, and Massachusetts, accounting for approximately 80 percent of the industry's 1977 employment. Data for Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3549, METALWORKING MACHINERY, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of metalworking machinery, not elsewhere classified, such as gas cutting and welding equipment, wire fabricating machinery and equipment, except wire drawing dies, and

automotive maintenance machinery and equipment. Establishments primarily engaged in the manufacture of metal cutting machine tools are classified in industry 3541, metal forming machine tools, in industry 3542, power driven hand tools, in industry 3546, and rolling mill machinery in industry 3547.

The total value of shipments for establishments classified in the Metalworking Machinery, N.E.C. industry amounted to $917 million in 1977, an increase of 115 percent from 1972. The value of shipments of products classified as primary to the industry was $909 million, an increase of 121 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were welding and cutting apparatus (except electric), for which shipments increased 128 percent, and assembly machines for which shipments increased 139 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $562 million in 1977, was 110 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.4 thousand employees, an increase of 43 percent from 1972. The leading States in employment were Illinois, Ohio, New York, and New Jersey, accounting for approximately 35 percent of the industry's 1977 employment. Data for Illinois have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. This represents a shift from 1972 when Ohio, Michigan, New York, and Pennsylvania accounted for approximately 40 percent of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
INDUSTRY 3541, MACHINE TOOLS, METAL CUTTING TYPES																
1977 Census--	872	917	306	59.4	949.0	37.2	76.3	540.7	1 866.1	1 047.7	2 812.7	80.4	(NA)	877.9	87	92
1976 ASM----	(NA)	(NA)	(NA)	58.1	845.4	37.6	73.5	473.9	1 664.1	852.3	2 496.2	65.2	999.6	735.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	62.8	850.3	40.8	81.7	486.8	1 640.3	1 050.3	2 727.8	52.2	937.2	737.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	65.0	874.4	43.9	92.5	509.8	1 617.0	1 017.9	2 480.5	58.9	895.4	786.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	59.9	709.4	39.8	83.3	417.9	1 214.1	764.1	1 891.1	38.4	851.3	591.9	(NA)	(NA)
1972 Census--	857	894	275	52.5	573.8	33.4	68.2	325.9	901.7	536.3	1 418.1	35.2	840.6	482.2	86	90
1971 ASM----	(NA)	(NA)	(NA)	54.0	533.1	33.2	64.5	286.2	819.8	473.2	1 351.1	28.7	873.6	492.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	71.3	684.7	45.8	93.2	395.3	1 112.1	664.0	1 821.7	49.3	884.5	562.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	82.6	791.6	55.3	116.0	477.5	1 441.5	744.5	2 108.3	75.5	889.3	618.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	84.3	755.2	57.5	120.2	462.3	1 377.1	718.9	2 099.1	62.3	844.9	541.0	(NA)	(NA)
1967 Census--	865	903	338	87.2	759.9	60.5	131.8	476.5	1 391.3	766.9	2 127.2	78.7	799.7	535.3	86	90
1966 ASM----	(NA)	(NA)	(NA)	79.8	673.4	55.3	123.8	427.5	1 234.2	669.4	1 826.1	74.9	(NA)	489.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	70.8	565.0	48.7	108.1	353.7	993.6	559.2	1 524.4	53.7	(NA)	394.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	65.1	497.7	44.5	97.3	306.8	836.2	479.5	1 286.0	41.7	557.9	343.6	(NA)	(NA)
1963 Census--	784	801	269	61.1	438.2	41.0	86.5	272.2	699.3	381.6	1 060.8	28.8	530.8	316.3	81	88
INDUSTRY 3542, MACHINE TOOLS, METAL FORMING TYPES																
1977 Census--	411	426	163	23.7	360.7	16.1	32.8	219.4	721.9	444.0	1 130.6	24.7	(NA)	359.6	90	87
1976 ASM----	(NA)	(NA)	(NA)	22.9	336.8	15.9	32.0	214.2	621.1	433.9	1 070.7	28.3	412.2	312.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	26.0	343.1	17.7	35.8	208.2	618.3	483.2	1 106.6	23.9	418.6	362.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	29.0	370.8	20.3	43.3	238.2	633.7	505.4	1 099.3	34.4	428.5	363.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	27.0	323.6	18.9	41.8	205.1	546.5	370.8	886.2	27.5	400.2	293.8	(NA)	(NA)
1972 Census--	375	383	162	24.1	265.4	16.6	34.7	163.8	417.7	285.3	696.3	17.5	386.6	242.7	89	87
1971 ASM----	(NA)	(NA)	(NA)	24.4	241.5	16.0	32.9	142.5	363.9	278.0	667.7	10.4	367.1	233.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	28.9	280.6	20.1	43.4	177.3	469.6	328.6	776.1	23.4	351.3	257.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	28.0	270.6	19.4	42.4	172.0	453.1	290.2	726.5	29.5	335.2	234.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	27.9	245.8	19.4	42.9	157.4	453.3	270.0	718.2	28.6	315.8	214.4	(NA)	(NA)
1967 Census--	344	350	168	29.2	249.6	20.9	46.2	165.0	437.2	295.4	714.0	26.2	298.6	207.8	85	84
1966 ASM----	(NA)	(NA)	(NA)	28.4	244.9	20.9	47.4	164.2	432.1	311.9	727.7	27.6	(NA)	189.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	25.5	205.5	18.5	41.5	138.8	349.0	254.3	582.8	20.5	(NA)	164.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	23.0	180.3	16.7	37.9	121.6	318.5	199.2	504.7	30.0	242.0	138.6	(NA)	(NA)
1963 Census--	362	366	146	22.1	161.7	15.8	34.6	107.4	281.3	165.4	441.4	10.8	212.2	124.2	86	79
INDUSTRY 3544, SPECIAL DIES, TOOLS, JIGS, AND FIXTURES																
1977 Census--	7 034	7 153	1 427	105.7	1 708.2	86.4	184.0	1 261.7	2 790.1	1 171.8	3 905.3	177.5	(NA)	450.3	94	79
1976 ASM----	(NA)	(NA)	(NA)	109.9	1 537.0	88.7	179.4	1 163.2	2 502.1	951.0	3 411.6	168.9	1 550.0	370.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	102.9	1 336.6	83.8	168.7	1 005.8	2 141.8	824.7	2 985.6	114.4	1 410.6	315.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	117.4	1 486.6	97.2	205.7	1 134.4	2 459.5	928.8	3 367.5	193.1	1 360.0	328.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	105.7	1 314.8	87.4	193.6	999.9	2 256.2	782.8	2 930.7	101.7	1 259.0	300.4	(NA)	(NA)
1972 Census--	6 513	6 616	1 266	97.8	1 113.8	80.5	173.3	843.6	1 797.4	648.0	2 423.7	97.0	1 194.6	244.1	94	78
1971 ASM----	(NA)	(NA)	(NA)	98.8	1 036.9	80.5	165.9	772.1	1 556.7	591.6	2 160.3	81.9	1 210.2	231.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	111.8	1 151.8	92.0	196.3	874.3	1 800.7	657.5	2 470.8	82.9	1 171.0	241.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	114.5	1 152.0	94.6	212.9	883.3	1 775.9	629.4	2 387.7	102.1	1 119.2	243.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	106.7	1 032.7	88.6	199.8	798.7	1 631.4	562.8	2 193.8	118.4	1 011.5	204.8	(NA)	(NA)
1967 Census--	6 532	6 615	1 531	113.6	1 032.8	95.5	214.2	800.0	1 646.7	577.6	2 202.3	114.7	938.9	214.2	94	74
1966 ASM----	(NA)	(NA)	(NA)	120.3	1 028.3	100.8	231.8	792.6	1 664.5	592.6	2 217.9	133.9	(NA)	194.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	108.5	881.0	90.3	209.3	684.3	1 341.7	514.3	1 839.2	80.5	(NA)	167.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	93.8	741.7	78.7	179.1	581.6	1 180.1	403.1	1 571.3	49.5	720.9	134.4	(NA)	(NA)
1963 Census--	5 850	5 896	1 133	90.9	682.7	76.0	169.3	543.0	1 029.3	373.3	1 388.8	53.3	666.1	124.8	93	72
INDUSTRY 3545, MACHINE TOOL ACCESSORIES																
1977 Census--	1 270	1 411	491	54.0	762.0	39.9	80.1	498.0	1 584.8	832.5	2 383.0	77.2	(NA)	468.3	89	88
1976 ASM----	(NA)	(NA)	(NA)	51.0	634.4	37.6	73.5	414.4	1 293.4	653.6	1 942.3	51.5	698.9	406.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	52.4	616.4	38.2	77.1	405.3	1 236.2	599.1	1 847.8	50.3	697.8	411.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	56.1	625.6	41.7	86.9	422.7	1 322.0	609.8	1 884.1	59.5	657.1	425.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	52.8	569.3	39.2	81.4	380.6	1 142.6	496.4	1 602.4	36.6	593.8	344.4	(NA)	(NA)
1972 Census--	1 113	1 231	413	46.7	456.6	33.6	67.0	294.5	876.1	378.5	1 243.4	30.2	555.6	289.0	86	87
1971 ASM----	(NA)	(NA)	(NA)	45.9	410.4	31.9	60.8	253.2	716.4	340.2	1 081.2	20.7	550.9	293.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	52.5	461.5	37.4	72.9	293.6	836.8	378.9	1 206.7	35.4	553.7	300.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	59.8	502.1	44.3	92.5	329.5	996.4	422.0	1 398 9	42.3	533.7	305.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	57.9	471.5	42.7	89.9	315.1	910.2	407.2	1 312.8	43.7	494.3	279.6	(NA)	(NA)
1967 Census--	1 073	1 141	429	60.3	479.3	45.2	96.4	324.2	922.8	416.3	1 309.9	55.0	454.4	273.7	85	85
1966 ASM----	(NA)	(NA)	(NA)	55.9	429.6	40.9	91.3	287.0	883.3	363.6	1 230.3	53.1	(NA)	231.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	51.9	375.6	37.9	81.8	248.2	732.6	292.6	1 030.7	38.5	(NA)	201.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	49.2	339.4	35.8	75.9	224.0	615.1	266.0	866.5	29.2	354.7	186.7	(NA)	(NA)
1963 Census--	983	1 038	347	47.0	312.8	34.6	72.0	208.1	559.3	234.5	787.3	22.8	332.2	171.1	83	84

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3546, POWER DRIVEN HAND TOOLS[3]															
1977 Census--	99	124	71	27.7	325.7	20.0	38.5	210.4	931.9	703.2	1 623.2	39.0	(NA)	326.0	91	90
1976 ASM----	(NA)	(NA)	(NA)	22.0	261.8	15.9	30.4	165.6	702.5	452.7	1 140.7	21.1	284.8	262.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	21.2	219.9	14.7	27.4	136.8	603.8	418.1	1 059.2	22.3	274.7	271.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	26.1	252.7	19.3	37.4	167.3	721.6	436.5	1 119.6	35.5	252.1	316.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	26.5	249.0	18.8	37.3	159.8	562.0	397.1	921.4	25.6	242.3	265.1	(NA)	(NA)
1972 Census--	71	88	65	23.1	202.3	16.9	32.9	124.2	434.5	302.7	730.5	20.3	225.1	199.7	82	92
	INDUSTRY 3547, ROLLING MILL MACHINERY[3]															
1977 Census--	58	63	38	7.9	128.2	5.4	10.4	78.4	286.9	198.3	507.4	9.1	(NA)	131.8	78	86
1976 ASM----	(NA)	(NA)	(NA)	10.9	156.2	7.8	14.8	99.3	350.9	247.4	620.8	14.5	250.9	168.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	10.6	141.1	8.0	15.2	95.3	331.0	259.7	540.5	12.1	213.8	181.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.3	132.9	8.1	16.1	92.6	297.1	202.0	472.2	11.1	210.3	136.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.2	108.1	7.1	14.3	73.1	244.6	152.6	377.2	7.7	196.9	106.6	(NA)	(NA)
1972 Census--	40	47	38	10.4	115.2	7.2	14.2	68.7	206.4	129.0	327.8	6.3	191.7	81.0	74	86
	INDUSTRY 3549, METALWORKING MACHINERY, N.E.C.[3]															
1977 Census--	521	534	183	19.4	279.5	12.8	25.2	154.1	562.2	389.1	916.8	30.7	(NA)	233.8	88	82
1976 ASM----	(NA)	(NA)	(NA)	14.7	182.1	9.9	19.5	101.4	324.5	275.7	595.9	13.5	186.6	151.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.5	163.8	9.4	18.2	88.5	290.3	261.5	571.5	19.4	168.1	149.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.6	167.2	11.0	21.3	95.9	345.0	264.9	587.0	17.9	154.1	178.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	15.1	153.3	10.1	20.7	91.9	314.5	203.0	490.2	18.9	156.6	133.8	(NA)	(NA)
1972 Census--	384	393	134	13.6	131.5	9.2	18.3	77.6	267.9	165.4	427.3	12.3	140.9	107.6	88	83

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3541, MACHINE TOOLS, METAL CUTTING TYPES											
1977 Census--	15 981	(NA)	82	2 053	7.08	37	70	(NA)	31 423	50	24.45
1976 ASM----	14 550	17 204	64	1 954	6.44	34	68	40	28 641	50	22.64
1975 ASM----	13 539	14 923	64	2 002	5.95	38	69	34	26 119	51	20.07
1974 ASM----	13 452	13 775	67	2 107	5.51	41	76	36	24 876	54	17.48
1973 ASM----	11 843	14 212	66	2 092	5.01	40	77	45	20 268	58	14.57
1972 Census--	10 929	16 011	63	2 041	4.77	37	78	59	17 175	63	13.22
1971 ASM----	9 872	16 177	61	1 942	4.43	35	74	64	15 181	65	12.71
1970 ASM----	9 603	12 405	64	2 034	4.24	36	74	48	15 597	61	11.93
1969 ASM----	9 583	10 766	66	2 097	4.11	35	72	42	17 451	54	12.42
1968 ASM----	8 958	10 022	68	2 090	3.84	34	70	40	16 335	54	11.45
1967 Census--	8 714	9 170	69	2 178	3.61	36	71	37	15 955	54	10.55
1966 ASM----	8 438	(NA)	69	2 238	3.45	36	73	(NA)	15 466	54	9.96
1965 ASM----	7 980	(NA)	68	2 219	3.27	36	73	(NA)	14 033	56	9.19
1964 ASM----	7 645	8 569	68	2 186	3.15	37	75	43	12 844	59	8.59
1963 Census--	7 171	8 687	67	2 109	3.14	35	77	50	11 445	62	8.05
INDUSTRY 3542, MACHINE TOOLS, METAL FORMING TYPES											
1977 Census--	15 222	(NA)	67	2 042	6.67	39	71	(NA)	30 462	49	21.97
1976 ASM----	14 707	18 000	69	2 012	6.69	40	71	38	27 122	54	19.40
1975 ASM----	13 196	16 100	68	2 022	5.81	43	74	37	23 780	55	17.27
1974 ASM----	12 786	14 775	70	2 133	5.50	45	79	38	21 851	58	14.63
1973 ASM----	11 985	14 822	70	2 211	4.90	41	78	45	20 240	59	13.07
1972 Census--	11 012	16 041	68	2 090	4.72	40	79	55	17 331	63	12.03
1971 ASM----	9 897	15 045	65	2 056	4.33	41	77	54	14 913	66	11.06
1970 ASM----	9 709	12 158	69	2 159	4.08	42	78	45	16 249	59	10.82
1969 ASM----	9 664	11 971	69	2 185	4.05	39	77	46	16 182	59	10.68
1968 ASM----	8 810	11 318	69	2 211	3.66	37	71	43	16 247	54	10.56
1967 Census--	8 547	10 226	71	2 210	3.57	41	76	41	14 972	57	9.46
1966 ASM----	8 623	(NA)	73	2 267	3.46	42	76	(NA)	15 214	56	9.11
1965 ASM----	8 058	(NA)	72	2 243	3.34	43	78	(NA)	13 686	58	8.40
1964 ASM----	7 839	10 957	72	2 269	3.20	39	75	48	13 847	56	8.40
1963 Census--	7 316	9 601	71	2 189	3.10	37	74	48	12 728	57	8.13
INDUSTRY 3544, SPECIAL DIES, TOOLS, JIGS, AND FIXTURES											
1977 Census--	16 153	(NA)	81	2 129	6.85	30	73	(NA)	26 385	61	15.16
1976 ASM----	13 985	14 103	80	2 022	6.48	27	72	45	22 767	61	13.94
1975 ASM----	12 989	13 708	81	2 013	5.96	27	72	47	20 814	62	12.69
1974 ASM----	12 662	11 584	82	2 116	5.51	27	71	40	20 949	60	11.95
1973 ASM----	12 438	11 911	82	2 215	5.16	26	71	42	21 345	58	11.65
1972 Census--	11 388	12 214	82	2 152	4.86	26	72	49	18 378	61	10.37
1971 ASM----	10 494	12 248	81	2 060	4.65	27	75	56	15 756	66	9.38
1970 ASM----	10 302	10 474	82	2 133	4.45	26	73	47	16 106	63	9.17
1969 ASM----	10 061	9 774	82	2 250	4.14	26	74	46	15 510	64	8.34
1968 ASM----	9 678	9 479	83	2 255	3.99	25	72	46	15 289	63	8.16
1967 Census--	9 091	8 264	84	2 242	3.73	26	73	42	14 495	62	7.68
1966 ASM----	8 547	(NA)	83	2 299	3.41	26	73	(NA)	13 836	61	7.18
1965 ASM----	8 119	(NA)	83	2 317	3.26	27	75	(NA)	12 365	65	6.41
1964 ASM----	7 907	7 685	83	2 275	3.24	25	72	45	12 581	62	6.58
1963 Census--	7 510	7 327	83	2 227	3.20	26	76	47	11 323	66	6.07
INDUSTRY 3545, MACHINE TOOL ACCESSORIES											
1977 Census--	14 102	(NA)	73	2 008	6.21	34	66	(NA)	29 329	48	19.77
1976 ASM----	12 439	13 703	73	1 954	5.63	33	66	35	25 360	49	17.59
1975 ASM----	11 763	13 316	72	2 018	5.25	32	65	37	23 591	49	16 03
1974 ASM----	11 151	11 713	74	2 083	4.86	32	65	34	23 565	47	15.21
1973 ASM----	10 782	11 246	74	2 076	4.67	30	66	37	21 640	49	14.03
1972 Census--	9 777	11 897	71	1 994	4.39	30	67	44	18 760	52	13.07
1971 ASM----	8 941	12 002	69	1 905	4.16	31	69	50	15 607	57	11.78
1970 ASM----	8 790	10 546	71	1 949	4.02	31	69	45	15 939	55	11.47
1969 ASM----	8 396	8 924	74	2 088	3.56	30	66	38	16 662	50	10.77
1968 ASM----	8 143	8 537	73	2 105	3.50	31	66	37	15 720	51	10.12
1967 Census--	7 948	7 535	74	2 132	3.36	31	68	34	15 303	51	9 57
1966 ASM----	7 685	(NA)	73	2 232	3.14	29	64	(NA)	15 801	48	9 67
1965 ASM----	7 236	(NA)	73	2 158	3.03	28	64	(NA)	14 115	51	8.95
1964 ASM----	6 898	7 209	72	2 120	2.95	30	69	40	12 502	55	8 10
1963 Census--	6 655	7 068	73	2 080	2.89	29	69	42	11 900	55	7 76

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3546, POWER DRIVEN HAND TOOLS											
1977 Census--	11 774	(NA)	72	1 925	5.47	43	63	(NA)	33 690	34	24.23
1976 ASM----	11 900	12 945	72	1 911	5.44	39	62	24	31 931	37	23.10
1975 ASM----	10 372	12 957	69	1 863	4.99	39	60	25	28 481	36	22.03
1974 ASM----	9 681	9 659	73	1 937	4.47	38	61	22	27 647	35	19.29
1973 ASM----	9 396	9 143	70	1 984	4.28	43	70	26	21 207	44	15.06
1972 Census--	8 757	9 744	73	1 946	3.77	41	69	30	18 809	46	13.20
INDUSTRY 3547, ROLLING MILL MACHINERY											
1977 Census--	16 314	(NA)	68	1 927	7.53	39	64	(NA)	36 521	44	27.59
1976 ASM----	14 330	23 018	71	1 897	6.70	39	65	40	32 192	44	23.70
1975 ASM----	13 311	20 169	75	1 900	6.26	48	74	39	31 226	42	21.77
1974 ASM----	12 902	20 417	78	1 987	5.75	42	70	44	28 844	44	18.45
1973 ASM----	11 750	21 402	77	2 014	5.11	40	69	52	26 586	44	17.10
1972 Census--	11 076	18 432	69	1 972	4.83	39	74	58	19 846	55	14.53
INDUSTRY 3549, METALWORKING MACHINERY, N.E.C.											
1977 Census--	14 397	(NA)	65	1 968	6.11	42	72	(NA)	28 964	49	22.30
1976 ASM----	12 387	12 693	67	1 969	5.20	46	76	31	22 074	56	16.64
1975 ASM----	11 296	11 593	64	1 936	4.86	45	74	29	20 020	56	15.95
1974 ASM----	10 717	9 878	70	1 936	4.50	45	73	26	22 115	48	16.19
1973 ASM----	10 152	10 370	66	2 049	4.43	41	72	31	20 827	48	15.19
1972 Census--	9 669	10 360	67	1 989	4.24	38	69	32	19 698	49	14.63

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 1c. Historical Statistics for Industry 3546, Power Driven Hand Tools (Without Chain Saw Plants): 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets		End-of-year inventories (mil. dol.)	Ratios	
	Companies (no.)	Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (mil.)	Wages (mil. dol.)				New capital expenditures (mil. dol.)	Gross value of fixed assets (mil. dol.)		Specialization (percent)	Coverage (percent)
1977 Census..	93	115	62	22.0	265.6	15.7	30.7	172.5	728.4	471.6	1,192.4	28.8	(NA)	252.0	(NA)	(NA)
1976 ASM.....	(NA)	(NA)	(NA)	22.0	261.8	15.9	30.4	165.6	702.5	452.7	1,140.7	21.1	284.8	262.5	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	21.2	219.9	14.7	27.4	136.8	603.8	418.1	1,059.2	22.3	274.7	271.4	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	26.1	252.7	19.3	37.4	167.3	721.6	436.5	1,119.6	35.5	252.1	316.5	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	26.5	249.0	18.8	37.3	159.8	562.0	397.1	921.4	25.6	242.3	265.1	(NA)	(NA)
1972 Census..	71	88	65	23.1	202.3	16.9	32.9	124.2	434.5	302.7	730.5	20.3	225.1	199.7	82	92

Note: For 1977, content of industry was changed to include chain saws. Prior to 1977, chain saws were included in Industry 3553, Woodworking Machinery. 1977 data in table 1C exclude chain saw plants in order to present figures comparable with historic data of industry.
(NA) Not available.
[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the industry chapter.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3541, MACHINE TOOLS, METAL CUTTING TYPES														
United States	-	**917**	**306**	**59.4**	**949.0**	**37.2**	**76.3**	**540.7**	**1 866.1**	**1 047.7**	**2 812.7**	**80.4**	**52.5**	**901.7**
New England Division:														
Maine	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Hampshire	-	7	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Vermont	-	6	4	2.8	38.2	1.9	3.8	23.7	86.8	37.3	117.2	2.5	(NA)	(D)
Massachusetts	-	37	10	2.2	34.8	1.4	2.6	18.4	65.6	31.1	92.4	2.1	(NA)	(D)
Rhode Island	-	20	7	2.4	35.8	1.6	3.3	20.6	61.9	25.9	81.9	(D)	(NA)	(D)
Connecticut	-	46	18	4.6	69.5	3.1	6.6	44.9	148.0	95.2	234.3	5.4	3.1	62.5
Middle Atlantic Division:														
New York	-	52	16	4.7	74.2	3.4	6.6	47.8	147.6	57.5	203.8	6.1	4.7	84.3
New Jersey	E2	31	6	0.4	5.6	0.2	0.5	3.0	10.0	5.8	15.4	0.2	0.4	7.3
Pennsylvania	-	42	11	1.9	27.3	1.2	2.7	15.1	47.6	19.2	66.3	2.6	1.5	23.9
East North Central Division:														
Ohio	-	95	40	13.9	214.6	7.5	15.0	112.4	388.9	225.6	623.9	17.5	12.4	186.1
Indiana	-	25	8	1.4	22.3	0.9	2.2	14.1	39.3	20.2	56.7	1.2	0.9	13.1
Illinois	-	94	39	6.5	103.5	4.1	8.5	54.9	195.6	111.6	291.3	9.7	6.4	114.3
Michigan	-	190	74	9.1	175.7	5.8	12.6	105.8	352.7	259.7	565.9	16.8	7.4	168.7
Wisconsin	-	36	18	3.7	62.9	2.2	4.4	32.8	128.3	60.5	179.6	4.0	3.9	55.6
West North Central Division:														
Minnesota	-	20	7	1.3	19.9	0.8	1.7	11.5	40.1	20.5	57.6	2.1	0.7	9.3
Iowa	-	6	4	0.5	7.7	0.3	0.5	3.8	11.5	8.3	21.4	0.2	(NA)	(D)
South Dakota	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	E1	17	2	0.2	2.4	0.1	0.2	1.7	4.8	1.9	7.0	0.1	(NA)	(D)
Pacific Division:														
Washington	E6	9	2	0.2	2.5	0.1	0.2	1.7	4.7	2.3	7.0	0.1	(NA)	(NA)
California	E2	95	16	1.5	21.7	1.0	2.0	13.2	59.9	29.4	88.5	2.6	1.5	24.4
INDUSTRY 3542, MACHINE TOOLS, METAL FORMING TYPES														
United States	-	**426**	**163**	**23.7**	**360.7**	**16.1**	**32.8**	**219.4**	**721.9**	**444.0**	**1 130.6**	**24.7**	**24.1**	**417.7**
New England Division:														
Massachusetts	E5	9	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	24	10	1.8	27.9	1.1	2.1	14.0	49.7	26.6	71.9	2.2	1.8	29.1
Middle Atlantic Division:														
New York	-	29	11	2.2	35.8	1.4	2.9	21.8	64.5	31.9	95.7	2.9	2.3	36.8
New Jersey	E3	24	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.0
Pennsylvania	-	19	7	0.9	15.8	0.6	1.4	9.1	36.5	24.1	58.9	1.7	1.2	17.1
East North Central Division:														
Ohio	-	34	19	4.6	69.2	3.1	6.2	39.4	167.3	94.6	255.1	5.3	5.1	103.0
Indiana	-	11	7	0.6	8.3	0.4	0.8	4.9	18.1	14.0	31.0	(D)	0.5	9.4
Illinois	-	52	25	6.4	95.2	4.4	8.9	61.4	177.2	115.7	275.9	5.3	6.1	91.0
Michigan	E1	58	22	2.0	34.1	1.4	3.3	21.4	67.7	43.1	109.5	2.3	2.6	49.9
West North Central Division:														
Minnesota	E1	7	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	7.7
Missouri	E2	12	6	0.3	3.3	0.2	0.4	2.1	5.3	3.3	8.4	0.1	0.2	1.8
Kansas	-	5	3	0.3	3.2	0.2	0.4	1.8	6.6	5.9	12.1	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	E1	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	E3	10	4	0.2	2.2	0.1	0.3	1.4	3.8	2.6	6.4	(D)	0.2	2.8
Mountain Division:														
Colorado	-	8	4	0.4	5.3	0.3	0.5	3.3	9.8	7.6	17.0	(D)	(NA)	(D)
Pacific Division:														
Washington	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	47	16	1.1	18.1	0.7	1.4	9.9	36.7	25.9	62.4	0.6	(NA)	(D)
INDUSTRY 3544, SPECIAL DIES, TOOLS, JIGS, AND FIXTURES														
United States	**E1**	**7 153**	**1 427**	**105.7**	**1 708.2**	**86.4**	**184.0**	**1 261.7**	**2 790.1**	**1 171.8**	**3 905.3**	**177.5**	**97.8**	**1 797.4**
New England Division:														
Maine	E1	11	4	0.2	2.2	0.1	0.3	1.6	3.4	0.9	4.3	0.2	(NA)	(NA)
New Hampshire	E3	19	2	0.2	3.0	0.2	0.3	2.2	4.2	1.8	6.0	0.3	0.2	2.8
Massachusetts	E1	268	58	3.7	52.4	3.1	6.3	38.7	84.6	34.0	118.5	5.4	3.7	64.3
Rhode Island	E2	59	7	0.6	7.8	0.5	0.8	5.4	12.2	5.2	17.2	0.9	(NA)	(D)
Connecticut	E2	294	47	3.1	44.2	2.5	5.0	31.8	68.1	25.3	92.6	6.4	3.0	52.0
Middle Atlantic Division:														
New York	E2	471	90	5.7	78.5	4.7	9.4	57.6	128.0	46.2	173.1	9.8	5.1	89.3
New Jersey	E2	389	59	4.4	64.7	3.6	7.4	47.7	109.0	46.3	154.0	6.7	4.5	75.5
Pennsylvania	-	406	BB	7.7	119.2	6.2	12.9	89.0	201.3	84.0	279.7	13.2	6.0	117.5

See footnotes at end of table

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3544, SPECIAL DIES, TOOLS, JIGS, AND FIXTURES—Con.														
East North Central Division:														
Ohio	E1	795	188	14.4	231.0	11.9	25.9	175.2	367.8	146.9	505.3	20.3	13.6	241.5
Indiana	E1	379	100	6.5	101.7	5.2	11.2	73.1	165.0	61.5	223.2	12.3	5.9	94.7
Illinois	E2	735	134	9.4	158.1	7.7	16.3	116.8	258.0	106.2	360.2	19.6	8.6	168.3
Michigan	E1	1 227	345	27.5	518.7	22.5	50.7	384.2	858.2	388.8	1 223.0	43.4	25.7	535.1
Wisconsin	E1	258	42	3.6	60.9	2.9	6.3	43.9	93.1	35.7	127.5	6.7	3.8	62.3
West North Central Division:														
Minnesota	E1	132	15	1.2	17.3	1.0	2.1	13.0	29.4	15.2	44.2	2.4	1.4	24.2
Iowa	-	49	9	0.6	10.3	0.5	1.1	7.9	15.6	4.8	20.1	0.9	0.7	10.8
Missouri	-	143	27	1.9	27.6	1.6	3.0	20.3	49.2	23.0	71.3	3.6	1.7	29.2
Kansas	E2	33	2	0.2	2.9	0.2	0.4	2.2	4.4	1.8	6.2	0.4	(NA)	(D)
South Atlantic Division:														
Maryland	E1	18	3	0.2	3.0	0.2	0.3	2.0	4.9	2.9	8.0	0.3	(NA)	(D)
Virginia	E3	18	5	0.3	3.8	0.2	0.4	2.6	6.4	1.6	8.0	0.5	0.3	4.6
North Carolina	E2	43	12	0.6	8.0	0.5	0.9	6.1	13.2	4.7	17.7	0.7	0.8	12.6
South Carolina	E1	26	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.9
Georgia	E1	41	10	0.4	5.8	0.4	0.7	4.4	10.1	4.0	13.7	0.7	0.7	10.0
Florida	E2	126	20	1.1	15.8	1.0	2.0	12.0	28.6	9.4	37.6	2.2	0.9	15.4
East South Central Division:														
Kentucky	E1	74	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	8.1
Tennessee	E2	108	18	1.1	15.5	1.0	2.0	11.8	22.4	10.3	32.1	2.7	0.9	13.8
Alabama	E1	31	8	0.5	6.4	0.4	0.9	4.7	10.4	3.8	14.0	0.5	0.3	4.8
Mississippi	E2	25	3	0.2	2.3	0.1	0.3	1.6	3.6	1.1	4.7	0.2	(NA)	(NA)
West South Central Division:														
Oklahoma	E4	24	2	0.2	1.6	0.1	0.2	1.2	2.3	1.0	3.2	0.4	(NA)	(NA)
Texas	E2	127	15	1.1	14.6	0.9	1.9	10.6	20.9	11.5	32.0	1.9	0.6	9.2
Mountain Division:														
Colorado	E1	37	7	0.4	5.9	0.3	0.7	4.4	7.8	4.1	11.9	0.6	0.3	3.9
Arizona	E5	37	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	616	78	6.4	96.6	5.1	10.5	68.9	161.2	69.0	228.9	10.5	5.7	103.9
INDUSTRY 3545, MACHINE TOOL ACCESSORIES														
United States	-	**1 411**	**491**	**54.0**	**762.0**	**39.9**	**80.1**	**498.0**	**1 584.8**	**832.5**	**2 383.0**	**77.2**	**46.7**	**876.1**
New England Division:														
New Hampshire	-	7	5	0.3	3.6	0.2	0.4	2.1	7.8	3.7	11.1	(D)	(NA)	(D)
Vermont	-	4	4	0.7	9.1	0.6	1.3	7.0	18.5	7.0	28.3	1.6	1.2	24.1
Massachusetts	-	64	25	5.8	77.5	4.3	8.7	53.1	157.4	68.2	224.6	5.6	6.1	108.5
Rhode Island	-	22	9	1.3	16.7	0.9	1.8	10.7	32.9	10.1	41.3	1.3	1.1	19.4
Connecticut	-	99	25	2.6	35.6	1.8	3.8	22.1	68.1	28.4	97.3	2.6	3.1	55.0
Middle Atlantic Division:														
New York	E1	80	18	1.6	22.2	1.2	2.3	13.4	51.6	23.1	73.5	2.3	(NA)	(D)
New Jersey	-	54	15	1.4	19.5	0.9	1.8	11.7	37.1	26.7	62.6	2.5	(NA)	(D)
Pennsylvania	-	57	19	3.2	48.0	2.0	4.0	26.8	122.7	125.9	251.1	3.9	(NA)	(D)
East North Central Division:														
Ohio	-	136	56	7.8	116.9	5.9	11.7	76.6	231.1	100.6	329.4	7.9	6.5	123.8
Indiana	E1	41	14	0.9	11.5	0.7	1.3	7.7	22.4	10.2	32.3	1.3	0.7	10.2
Illinois	-	108	39	5.5	73.2	3.9	7.9	47.3	155.0	72.5	221.0	6.4	4.7	84.0
Michigan	-	358	158	12.9	204.9	9.8	19.9	137.1	427.5	222.3	634.1	20.5	10.8	232.6
Wisconsin	-	35	11	0.9	11.8	0.7	1.4	8.2	25.9	15.8	40.8	1.7	0.6	12.0
West North Central Division:														
Minnesota	-	17	4	0.5	5.6	0.4	0.8	4.1	9.7	6.0	15.4	0.5	(NA)	(D)
Iowa	-	7	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	15	7	1.1	17.7	0.7	1.3	9.5	41.1	12.2	52.7	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	E1	12	2	0.3	3.4	0.3	0.4	2.6	3.8	4.8	8.1	(D)	(NA)	(D)
South Carolina	-	8	6	0.6	6.1	0.5	1.1	5.1	13.0	10.3	23.1	0.7	(NA)	(D)
Georgia	-	9	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	21	3	0.2	3.2	0.2	0.4	2.0	7.6	4.9	12.2	0.4	0.2	1.9
East South Central Division:														
Kentucky	-	3	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	12	6	0.5	6.0	0.4	0.9	4.9	10.5	8.7	18.3	1.0	(NA)	(D)
West South Central Division:														
Arkansas	-	12	7	1.0	11.5	0.8	1.6	7.7	25.4	14.9	38.7	3.6	(NA)	(D)
Texas	-	28	9	0.4	5.6	0.4	0.6	3.4	16.8	5.7	22.0	0.5	(NA)	(D)
Pacific Division:														
California	E1	147	31	2.5	32.1	1.9	3.7	20.9	60.3	31.5	89.9	3.8	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3546, POWER DRIVEN HAND TOOLS														
United States	-	**124**	**71**	**27.7**	**325.7**	**20.0**	**38.5**	**210.4**	**931.9**	**703.2**	**1 623.2**	**39.0**	**23.1**	**434.5**
New England Division:														
Massachusetts	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	16	12	2.7	39.9	1.8	3.8	23.8	90.9	33.5	122.3	5.5	(NA)	(D)
Illinois	-	14	7	3.1	33.6	2.0	3.8	19.4	82.7	69.6	151.6	1.8	(NA)	(D)
Michigan	-	6	4	1.2	16.4	0.8	1.6	10.1	35.2	20.3	54.9	(D)	(NA)	(D)
Wisconsin	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Iowa	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E1	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Arizona	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	14	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3547, ROLLING MILL MACHINERY														
United States	-	**63**	**38**	**7.9**	**128.2**	**5.4**	**10.4**	**78.4**	**286.9**	**198.3**	**507.4**	**9.1**	**10.4**	**206.4**
New England Division:														
Massachusetts	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	3	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pennsylvania	-	15	9	2.9	47.6	1.9	3.6	26.2	96.6	59.4	190.6	5.5	(NA)	(D)
East North Central Division:														
Ohio	-	15	11	2.7	44.9	2.2	3.9	33.9	118.3	92.0	201.2	1.7	(NA)	(D)
Pacific Division:														
California	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 3549, METALWORKING MACHINERY, N.E.C.														
United States	-	**534**	**183**	**19.4**	**279.5**	**12.8**	**25.2**	**154.1**	**562.2**	**389.1**	**916.8**	**30.7**	**13.6**	**267.9**
New England Division:														
New Hampshire	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	20	6	0.5	6.2	0.4	0.6	3.8	15.0	9.1	24.1	1.4	(NA)	(D)
Connecticut	E1	29	6	0.7	8.8	0.5	1.0	5.6	17.6	13.2	31.7	0.9	(NA)	(D)
Middle Atlantic Division:														
New York	-	31	12	1.8	28.7	1.2	2.5	17.0	56.9	40.5	88 7	2.5	1.1	20 9
New Jersey	-	38	17	1.5	19.2	1.0	1.9	11.7	35.1	30.0	64.6	1.8	1.1	19 2
Pennsylvania	-	28	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	19.5
East North Central Division:														
Ohio	-	53	23	1.9	29.5	1.2	2.7	16.6	59.4	32.2	89.6	1.9	1 6	27.0
Indiana	-	20	12	0.8	13.6	0.5	1.2	7.7	24.4	17.1	40.9	1.8	(NA)	(D)
Illinois	-	47	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	20 4
Michigan	-	51	19	1.4	26.6	1.0	2.4	17.5	54.2	42.8	87.7	1.5	1.5	30 4
Wisconsin	-	19	10	1.0	15.2	0.7	1.4	8.2	29.0	13.4	37.8	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	12	4	0.7	12.2	0.4	0.8	6.8	25.0	13.3	37 0	2.4	0 6	14 6
Iowa	-	12	4	0.4	4.8	0.2	0.4	2.3	11.8	6.3	17.9	(D)	0.7	13 3
Missouri	-	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Georgia	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	6	3	0.4	4.0	0.4	0.8	2.8	7.6	4 0	11.5	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	10	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	9	3	0 2	3 1	0.2	0 3	1 6	5 3	4 1	9 0	0 1	(NA)	(NA)
Pacific Division:														
California	E1	61	9	0 9	10 0	0 6	1.1	5 4	19 1	15 4	33 6	0 7	0 5	10 1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies (NA) Not available n e c Not elsewhere classified (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Machine tools, metal cutting types (SIC 3541)	Machine tools, metal forming types (SIC 3542)	Special dies, tools, jigs, and fixtures (SIC 3544)	Machine tool accessories (SIC 3545)	Power driven hand tools (SIC 3546)	Rolling mill machinery (SIC 3547)	Metalworking machinery, n.e.c. (SIC 3549)
Primary product specialization ratio[1]	percent	87	90	94	89	91	78	88
Coverage ratio[2]	do	92	87	79	88	90	86	82
All establishments	number	917	426	7 153	1 411	124	63	534
With 1 to 19 employees	do	611	263	5 726	920	53	25	351
With 20 to 99 employees	do	211	106	1 317	381	29	19	133
With 100 employees or more	do	95	57	110	110	42	19	50
All employees, average for year	1,000	59.4	23.7	105.7	54.0	27.7	7.9	19.4
Payroll for year, all employees	mil. dol.	949.0	360.7	1 708.2	762.0	325.7	128.2	279.5
Production workers:								
Average for year	1,000	37.2	16.1	86.4	39.9	20.0	5.4	12.8
March	do	36.4	16.0	84.4	39.0	19.7	5.5	12.4
May	do	36.7	16.0	85.3	39.5	19.9	5.7	12.8
August	do	37.0	15.9	86.7	40.1	19.9	5.9	12.9
November	do	38.5	16.4	90.1	40.8	20.5	4.6	13.2
Hours	millions	76.3	32.8	184.0	80.1	38.5	10.4	25.2
January to March	do	18.5	8.3	35.2	18.4	9.5	2.8	6.2
April to June	do	19.1	8.6	36.6	20.6	9.8	2.7	6.4
July to September	do	18.7	7.7	54.7	19.8	9.4	2.7	6.2
October to December	do	20.0	8.3	57.6	21.3	9.8	2.2	6.5
Wages	mil. dol.	540.7	219.4	1 261.7	498.0	210.4	78.4	154.1
Cost of materials, etc.	do	1 047.7	444.0	1 171.8	832.5	703.2	198.3	389.1
Materials, parts, containers, etc., consumed	do	904.4	395.7	907.3	673.1	574.0	138.0	329.8
Resales	do	34.2	15.9	35.3	90.7	106.2	42.5	28.3
Fuels consumed	do	12.5	4.5	16.6	7.8	3.5	4.5	2.8
Purchased electric energy	do	22.1	8.2	38.5	23.6	9.4	4.5	6.2
Contract work	do	74.5	19.8	174.1	37.4	10.2	8.9	22.0
Value of shipments, including resales	do	2 812.7	1 130.6	3 905.3	2 383.0	1 623.2	507.4	916.8
Value of resales	do	44.6	20.9	57.3	118.8	141.3	53.6	36.5
Value added by manufacture	do	1 866.1	721.9	2 790.1	1 584.8	931.9	286.9	562.2
Manufacturers' inventories:								
Beginning of year	do	741.4	317.2	378.6	413.1	311.4	154.5	193.7
Finished products	do	171.2	70.5	58.5	149.8	127.3	11.6	47.7
Work in process	do	449.0	154.8	225.5	165.1	106.7	118.5	87.4
Materials, supplies, fuel, etc.	do	121.2	92.0	94.5	98.2	77.3	24.4	58.6
End of year	do	877.9	359.6	480.3	468.3	326.0	131.8	233.8
Finished products	do	184.1	80.5	65.7	156.3	137.0	18.8	47.7
Work in process	do	537.2	180.1	275.0	193.0	108.9	88.9	121.9
Materials, supplies, fuel, etc.	do	156.6	99.1	109.6	119.1	80.1	24.0	64.2
Capital expenditures for plant and equipment	do	85.2	26.7	201.8	87.0	39.6	12.3	33.0
New capital expenditures	do	80.4	24.7	177.5	77.2	39.0	9.1	30.7
New buildings and other structures	do	15.1	3.2	29.6	13.8	7.4	0.6	9.3
New machinery and equipment	do	65.3	21.5	147.9	63.3	31.6	8.4	21.5
Used capital expenditures	do	4.8	2.0	24.3	9.9	0.6	3.3	2.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Machine tools, metal cutting types (SIC 3541)		Machine tools, metal forming types (SIC 3542)		Special dies, tools, jigs, and fixtures (SIC 3544)		Machine tool accessories (SIC 3545)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	5.9	12	(2.6)	22	(6.3)	(A)	(3.6)	21
Response coverage ratio[2] (percent)	72	(X)	69	(X)	50	(X)	67	(X)
Machinery	10.6	12	5.8	13	(20.6)	(A)	12.8	14
Response coverage ratio[2] (percent)	71	(X)	75	(X)	54	(X)	73	(X)
Cost of purchased communication services	(10.8)	23	4.7	8	(11.4)	(A)	8.1	10
Response coverage ratio[2] (percent)	75	(X)	80	(X)	51	(X)	70	(X)
Rental payments	19.8	6	7.6	14	53.6	10	17.5	10
Buildings and other structures	(6.6)	17	3.4	14	32.1	9	(9.3)	18
Machinery and equipment	13.2	5	(4.2)	19	(21.5)	17	8.2	8
Supplemental labor costs	191.4	2	73.5	3	232.1	3	150.7	2
Legal costs	72.6	1	30.1	1	118.4	2	62.7	2
Voluntary costs	118.8	3	43.4	5	113.7	5	88.0	4
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	278.8	3	130.5	5	235.4	7	183.9	5
New capital expenditures	19.1	12	(2.6)	15	(31.7)	20	14.3	12
Used capital expenditures	0.9	9	0.5	1	(4.2)	28	2.5	6
Retirements	3.9	12	(4.5)	48	(6.0)	26	7.7	6
End of year	294.8	3	129.1	5	265.3	7	193.0	5
Machinery and equipment:								
Beginning of year	674.5	3	302.8	4	1,146.4	2	568.2	3
New capital expenditures	88.8	10	21.9	9	176.7	10	60.7	8
Automobiles, trucks, etc., for highway use[3]	(2.2)	(A)	(0.8)	(A)	(11.2)	(A)	(2.0)	(A)
Computers and peripheral data processing equipment[3]	(3.6)	(A)	(1.2)	(A)	(1.6)	(A)	(1.5)	(A)
All other[3]	(73.5)	27	(17.2)	(A)	(107.8)	19	(48.6)	41
New machinery and equipment, n.s.k.[4]	(9.6)	(A)	(2.8)	(A)	(56.1)	36	(8.7)	(A)
Used capital expenditures	(5.0)	30	(1.5)	29	(30.9)	27	(7.0)	27
Retirements	28.5	6	12.0	6	55.1	14	29.5	14
End of year	739.8	2	314.2	4	1,298.1	2	606.4	3
Total gross value of depreciable assets:								
Beginning of year	953.2	2	433.3	4	1,381.8	2	751.8	3
New capital expenditures	107.9	9	24.5	9	208.4	10	75.0	8
Used capital expenditures	(5.8)	26	(2.0)	22	(35.1)	24	(9.5)	20
Retirements	32.7	7	16.5	14	61.1	14	37.0	12
End of year	1,034.6	2	443.3	4	1,564.2	1	799.2	3
Depreciation charges during 1977	53.2	2	23.9	3	105.5	6	53.1	7
Buildings and other structures	9.4	4	4.7	5	10.9	8	8.8	11
Machinery and equipment	43.8	3	19.2	3	94.5	6	44.2	7

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendic B)

Item	Power driven hand tools (SIC 3546)		Rolling mill machinery (SIC 3547)		Metalworking machinery, n.e.c. (SIC 3549)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	1.0	10	0.4	10	1.4	10
Response coverage ratio[2] (percent)	24	(X)	56	(X)	68	(X)
Machinery	2.8	13	2.0	9	(2.5)	18
Response coverage ratio[2] (percent)	24	(X)	56	(X)	65	(X)
Cost of purchased communication services	3.7	8	(1.4)	21	3.3	14
Response coverage ratio[2] (percent)	63	(X)	75	(X)	57	(X)
Rental payments	8.1	3	(1.8)	17	6.0	9
Buildings and other structures	1.8	4	(0.7)	47	3.3	12
Machinery and equipment	6.3	4	1.1	7	2.7	9
Supplemental labor costs	67.2	1	38.2	3	40.3	3
Legal costs	26.9	1	10.0	3	20.6	2
Voluntary costs	40.3	2	28.3	5	19.7	6
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	91.1	3	54.9	7	92.1	5
New capital expenditures	7.2	2	(1.1)	53	(6.1)	17
Used capital expenditures	-	(X)	0.1	5	-	(X)
Retirements	0.6	7	(0.1)	(A)	(1.0)	15
End of year	97.7	2	56.1	7	97.2	5
Machinery and equipment:						
Beginning of year	267.1	1	170.1	4	164.0	6
New capital expenditures	31.2	2	(9.1)	17	15.6	9
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(0.9)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(0.2)	(A)
All other[3]	(D)	71	(D)	(A)	(10.3)	(A)
New machinery and equipment, n.s.k.[4]	(2.8)	(A)	(1.7)	(A)	(4.1)	(A)
Used capital expenditures	0.6	4	(4.4)	48	0.4	12
Retirements	12.8	1	3.3	13	(15.9)	54
End of year	286.0	1	180.2	4	164.1	4
Total gross value of depreciable assets:						
Beginning of year	358.2	1	225.0	5	256.1	4
New capital expenditures	38.4	2	(10.2)	21	21.6	10
Used capital expenditures	0.6	6	(4.5)	47	0.4	11
Retirements	13.4	1	(3.3)	15	(16.9)	51
End of year	383.8	1	236.3	4	261.3	4
Depreciation charges during 1977	25.5	3	8.5	4	16.7	3
Buildings and other structures	3.8	6	1.7	12	4.4	7
Machinery and equipment	21.7	3	6.8	4	12.3	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3541, MACHINE TOOLS, METAL CUTTING TYPES												
Total	-	**917**	**59.4**	**949.0**	**37.2**	**76.3**	**540.7**	**1 866.1**	**1 047.7**	**2 812.7**	**80.4**	**877.9**
Establishments with an average of—												
1 to 4 employees	E9	315	0.6	8.2	0.5	0.7	4.7	15.3	8.4	24.6	0.6	6.8
5 to 9 employees	E8	184	1.2	17.1	0.8	1.6	9.7	31.5	17.0	48.3	1.3	13.4
10 to 19 employees	E2	112	1.5	22.4	1.0	2.0	13.1	41.1	23.5	63.4	1.6	16.0
20 to 49 employees	-	144	4.4	66.1	3.1	6.3	40.7	128.2	71.4	193.3	7.8	50.2
50 to 99 employees	-	67	4.6	70.8	3.1	6.0	42.1	136.9	83.2	217.5	6.6	56.4
100 to 249 employees	-	40	6.3	99.9	4.2	9.2	63.8	201.9	128.2	321.0	7.2	94.5
250 to 499 employees	-	28	10.3	168.0	6.4	13.8	96.4	353.8	246.7	562.9	14.6	189.8
500 to 999 employees	-	19	13.8	225.0	8.9	18.8	131.1	481.2	277.0	726.2	18.8	241.2
1,000 to 2,499 employees	-	7	(16.6)	(271.6)	(9.3)	(17.9)	(139.1)	(476.2)	(192.4)	(655.6)	(21.9)	(209.6)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	455	1.8	25.3	1.2	2.3	14.4	48.3	25.0	73.3	1.8	20.9
INDUSTRY 3542, MACHINE TOOLS, METAL FORMING TYPES												
Total	-	**426**	**23.7**	**360.7**	**16.1**	**32.8**	**219.4**	**721.9**	**444.0**	**1 130.6**	**24.7**	**359.6**
Establishments with an average of—												
1 to 4 employees	E8	119	0.2	3.0	0.2	0.3	1.8	4.7	4.1	9.9	0.2	2.9
5 to 9 employees	E8	78	0.5	7.7	0.4	0.8	4.8	14.6	9.7	24.2	0.5	7.1
10 to 19 employees	E6	66	0.9	13.8	0.6	1.3	8.3	24.9	17.4	42.0	0.9	10.8
20 to 49 employees	-	75	2.3	34.4	1.6	3.7	21.8	63.5	43.4	107.4	1.8	24.4
50 to 99 employees	-	31	2.1	28.2	1.6	3.0	17.4	62.6	38.7	97.4	2.3	25.1
100 to 249 employees	-	35	5.2	80.6	3.4	7.1	47.4	151.3	107.9	250.1	6.3	84.3
250 to 499 employees	-	13	4.5	71.1	3.1	6.1	45.6	158.7	84.5	235.7	3.1	84.0
500 to 999 employees	-	8	(7.9)	(121.9)	(5.2)	(10.6)	(72.2)	(241.6)	(138.3)	(364.0)	(9.6)	(121.0)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	218	1.4	19.5	1.0	1.9	12.1	34.4	23.2	57.6	1.2	16.7
INDUSTRY 3544, SPECIAL DIES, TOOLS, JIGS, AND FIXTURES												
Total	**E1**	**7 153**	**105.7**	**1 708.2**	**86.4**	**184.0**	**1 261.7**	**2 790.1**	**1 171.8**	**3 905.3**	**177.5**	**450.3**
Establishments with an average of—												
1 to 4 employees	E8	2 990	5.4	75.5	5.3	9.0	56.4	138.9	54.6	196.5	11.5	19.8
5 to 9 employees	E3	1 327	9.0	130.5	7.4	15.5	97.1	209.5	86.8	293.8	14.9	26.8
10 to 19 employees	E1	1 409	19.3	287.6	15.6	33.4	213.1	445.1	184.8	622.4	30.2	57.1
20 to 49 employees	E1	1 050	31.3	491.0	25.4	54.1	360.3	786.4	325.1	1 095.9	58.0	114.5
50 to 99 employees	-	267	18.0	301.1	14.6	32.2	221.5	504.6	213.9	703.6	30.1	94.3
100 to 249 employees	-	90	13.1	219.9	10.6	22.9	164.9	386.0	161.5	535.8	18.2	90.3
250 to 499 employees	-	14	4.2	72.5	3.4	7.0	53.9	119.2	46.3	160.8	8.0	25.5
500 to 999 employees	-	4	(5.5)	(130.2)	(4.2)	(9.9)	(94.6)	(200.5)	(98.7)	(296.5)	(6.5)	(22.0)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	3 036	7.6	105.2	7.2	12.6	78.4	186.4	71.6	258.0	14.8	26.6
INDUSTRY 3545, MACHINE TOOL ACCESSORIES												
Total	-	**1 411**	**54.0**	**762.0**	**39.9**	**80.1**	**498.0**	**1 584.8**	**832.5**	**2 383.0**	**77.2**	**468.3**
Establishments with an average of—												
1 to 4 employees	E7	437	0.8	10.3	0.7	1.1	6.6	18.6	12.5	35.9	1.3	6.3
5 to 9 employees	E5	231	1.6	20.5	1.2	2.3	13.3	39.6	21.1	60.0	1.8	11.1
10 to 19 employees	E1	252	3.5	48.1	2.6	5.3	31.9	90.1	46.0	134.6	3.8	18.7
20 to 49 employees	-	270	8.5	122.2	6.6	13.4	81.9	255.3	128.0	376.9	13.7	56.3
50 to 99 employees	-	111	7.9	106.5	6.0	12.3	71.7	232.6	120.4	342.5	12.1	68.6
100 to 249 employees	-	65	10.1	135.0	7.5	15.4	89.3	274.6	137.3	400.9	13.9	99.5
250 to 499 employees	-	32	10.4	146.4	7.6	15.2	97.5	286.7	145.7	429.9	15.6	98.9
500 to 999 employees	-	9	6.4	92.0	4.4	8.3	58.3	176.0	59.9	228.3	5.3	66.9
1,000 to 2,499 employees	-	4	5.0	81.1	3.3	6.8	47.4	211.3	161.5	373.9	9.7	41.9
Covered by administrative records[2]	E0	487	1.6	20.4	1.3	2.4	13.4	40.6	21.3	61.9	1.8	12.2
INDUSTRY 3546, POWER DRIVEN HAND TOOLS												
Total	-	**124**	**27.7**	**325.7**	**20.0**	**38.5**	**210.4**	**931.9**	**703.2**	**1 623.2**	**39.0**	**326.0**
Establishments with an average of—												
1 to 4 employees	E9	25	(Z)	0.4	(Z)	0.1	0.3	1.2	0.7	1 9	(Z)	0 4
5 to 9 employees	E7	10	0.1	0.8	(Z)	0.1	0.5	1.9	1.2	3.1	0.1	0.7
10 to 19 employees	E3	18	0.2	2.8	0.2	0.3	1.6	7.0	4.1	10.9	0.3	2.7
20 to 49 employees	-	16	0.5	6.1	0.4	0.7	3.6	13.7	9.4	22.9	0.8	4 3
50 to 99 employees	-	13	1.0	12.9	0.7	1.3	7.2	32.7	15.9	48.2	0 8	15.0
100 to 249 employees	-	13	2.2	27.4	1.7	3.0	16.7	81.6	96 5	179.2	7.9	35 0
250 to 499 employees	-	11	4.2	45.7	2.9	5.8	31.5	115.0	92 5	205.0	4.4	57 8
500 to 999 employees	-	12	8.7	100.7	6.2	12.1	64.1	290.1	238 4	533 8	12 9	92 4
1,000 to 2,499 employees	-	5	(10.7)	(128.9)	(7.9)	(15.1)	(84.8)	(388.7)	(244.4)	(618.4)	(11 8)	(117.7)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	35	0.2	1.8	0.1	0.2	1.2	4.3	2 8	7 2	0.1	1.7

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3547, ROLLING MILL MACHINERY												
Total	-	**63**	**7.9**	**128.2**	**5.4**	**10.4**	**78.4**	**286.9**	**198.3**	**507.4**	**9.1**	**131.8**
Establishments with an average of—												
1 to 4 employees	E0	7	(Z)	0.2	(Z)	(Z)	0.1	0.5	0.3	0.7	(Z)	0.2
5 to 9 employees	E0	8	0.1	0.8	(Z)	0.1	0.5	2.0	1.3	3.4	0.1	0.8
10 to 19 employees	E6	10	0.1	2.0	0.1	0.2	1.3	4.5	3.5	7.9	0.3	1.7
20 to 49 employees	E1	9	0.3	3.8	0.2	0.4	2.4	7.9	5.5	12.7	0.3	2.0
50 to 99 employees	E1	10	0.7	10.2	0.5	1.0	6.0	18.4	18.8	45.0	0.7	20.3
100 to 249 employees	-	8	1.2	18.0	0.9	1.7	11.7	36.8	24.6	60.6	0.9	16.3
250 to 499 employees	-	7	2.3	37.9	1.6	3.0	24.8	114.8	93.2	203.6	1.9	32.8
500 to 999 employees	-	3	(3.2)	(55.3)	(2.2)	(4.1)	(31.6)	(102.0)	(51.2)	(173.6)	(4.9)	(57.8)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	21	0.2	2.3	0.1	0.2	1.5	5.6	3.6	9.3	0.2	2.1
INDUSTRY 3549, METALWORKING MACHINERY, N.E.C.												
Total	-	**534**	**19.4**	**279.5**	**12.8**	**25.2**	**154.1**	**562.2**	**389.1**	**916.8**	**30.7**	**233.8**
Establishments with an average of—												
1 to 4 employees	E6	138	0.3	3.6	0.2	0.4	1.9	5.8	6.1	12.8	0.4	3.2
5 to 9 employees	E1	83	0.6	7.7	0.4	0.8	4.2	14.4	9.1	23.5	0.5	3.8
10 to 19 employees	E1	130	1.7	20.4	1.1	2.0	10.8	32.4	22.3	54.3	1.6	9.5
20 to 49 employees	E1	84	2.6	35.1	1.8	3.4	20.2	66.2	41.7	105.7	4.0	21.0
50 to 99 employees	-	49	3.5	48.6	2.3	4.4	26.9	97.2	70.1	162.3	5.3	37.3
100 to 249 employees	-	38	5.6	85.5	3.8	7.9	50.7	183.7	146.4	313.3	10.9	94.0
250 to 499 employees	-	10	(5.2)	(78.5)	(3.2)	(6.4)	(39.4)	(162.5)	(93.4)	(245.0)	(8.0)	(65.0)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	103	0.3	3.7	0.2	0.4	2.0	6.7	5.9	12.6	0.4	3.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3541	**Machine tools, metal cutting types:**										
	Entire industry	917	59.4	949.0	37.2	76.3	540.7	1 866.1	1 047.7	2 812.7	80 4
	Establishments with 75 percent specialization or more	842	42.4	684.8	26.7	54.7	386.4	1 405.7	841.5	2 156.2	55.8
35411	Boring machines, metal cutting:										
	Establishments with this product class primary	16	1.8	33.8	1.2	2.6	20.1	70.6	31.4	99.0	3.8
	Establishments with 75 percent specialization or more in class	9	0.7	11.4	0.4	0.8	5.8	26.3	13.9	39.6	0.5
35412	Drilling machines, metal cutting:										
	Establishments with this product class primary	34	2.2	35.6	1.4	3.3	21.6	80.2	45.9	120.5	3.7
	Establishments with 75 percent specialization or more in class	19	1.1	17.0	0.8	1.6	10.7	46.8	28.0	72.2	2.7
35413	Gear cutting and finishing machines:										
	Establishments with this product class primary	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35414	Grinding, honing, lapping, and polishing machines:										
	Establishments with this product class primary	56	7.7	120.2	5.1	10.8	71.0	212.8	113.5	311.4	10.6
	Establishments with 75 percent specialization or more in class	37	2.6	40.4	1.6	3.5	22.0	68.5	41.4	110.6	3.4
35415	Lathes, metalworking:										
	Establishments with this product class primary	32	11.8	178.9	7.4	15.6	107.7	387.1	223.2	597.7	15.5
	Establishments with 75 percent specialization or more in class	10	2.8	41.8	1.7	4.0	24.7	79.3	51.1	127.5	5.1
35416	Milling machines, metalworking:										
	Establishments with this product class primary	14	1.6	26.5	1.2	2.5	19.7	54.2	47.5	99.5	1.3
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35417	Other metal cutting machine tools:										
	Establishments with this product class primary	62	13.3	237.9	8.1	16.4	126.6	498.7	327.0	767.4	18.2
	Establishments with 75 percent specialization or more in class	38	5.8	107.5	3.6	7.5	60.5	253.6	191.8	415.2	9.4
35418	Metalworking machine tools for workshops:										
	Establishments with this product class primary	20	1.5	23.3	0.9	1.9	13.4	41.0	18.5	56.8	1.2
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35419	Parts for metal cutting type machine tools:										
	Establishments with this product class primary	81	11.9	180.3	6.6	13.1	93.5	320.2	162.4	482.7	17.4
	Establishments with 75 percent specialization or more in class	45	1.4	21.6	1.0	2.0	13.9	40.6	25.5	65.2	2.9
3542	**Machine tools, metal forming types:**										
	Entire industry	426	23.7	360.7	16.1	32.8	219.4	721.9	444.0	1 130.6	24.7
	Establishments with 75 percent specialization or more	395	20.1	303.4	13.8	28.0	187.6	601.6	368.5	940.5	21.3
35421	Punching, shearing, bending, and forming machines:										
	Establishments with this product class primary	50	6.5	96.7	4.2	8.7	54.4	215.7	137.6	349.7	6.6
	Establishments with 75 percent specialization or more in class	29	2.9	43.1	2.0	4.2	25.5	90.5	64.1	151.6	4.3
35422	Metalworking presses:										
	Establishments with this product class primary	35	8.0	123.8	5.3	10.8	74.4	225.5	147.4	355.5	9.9
	Establishments with 75 percent specialization or more in class	22	4.2	61.6	3.0	5.9	40.7	103.5	79.6	179.5	3.6
35423	Other metal forming machine tools:										
	Establishments with this product class primary	27	3.0	46.0	2.1	4.5	27.6	102.2	58.2	155.4	3.9
	Establishments with 75 percent specialization or more in class	12	0.9	13.8	0.6	1.2	8.8	21.5	16.0	36.2	0.8
35424	Part for metal forming machine tools:										
	Establishments with this product class primary	48	4.2	64.8	3.1	6.1	45.1	126.7	66.4	182.9	2.5
	Establishments with 75 percent specialization or more in class	31	2.0	30.1	1.5	3.0	21.2	63.5	30.1	86.7	1.0
3544	**Special dies, tools, jigs, and fixtures:**										
	Entire industry	7 153	105.7	1 708.2	86.4	184.0	1 261.7	2 790.1	1 171.8	3 905.3	177.5
	Establishments with 75 percent specialization or more	6 825	93.8	1 504.4	76.9	163.7	1 115.2	2 484.3	1 034.4	3 466.6	155.6
35441	Special dies, tools, die sets, jigs, and fixtures:										
	Establishments with this product class primary	1 959	54.5	936.3	43.6	96.5	687.1	1 523.9	656.7	2 138.5	77.4
	Establishments with 75 percent specialization or more in class	1 659	42.8	734.8	34.3	76.3	539.7	1 207.4	524.4	1 699.7	56.3
35442	Industrial molds (including mold bases):										
	Establishments with this product class primary	876	23.6	393.0	19.2	42.6	295.3	643.3	270.1	899.9	46.5
	Establishments with 75 percent specialization or more in class	791	20.7	343.8	16.8	37.3	258.2	559.3	230.7	776.8	40.7
3545	**Machine tool accessories:**										
	Entire industry	1 411	54.0	762.0	39.9	80.1	498.0	1 584.8	832.5	2 383.0	77.2
	Establishments with 75 percent specialization or more	1 311	44.1	612.4	33.1	65.9	406.0	1 258.1	608.4	1 828.7	62.7
35451	Small cutting tools for machine tools:										
	Establishments with this product class primary	447	34.5	489.6	25.8	51.7	323.4	1 025.7	581.0	1 579.1	54 9
	Establishments with 75 percent specialization or more in class	390	26.7	368.6	20.5	41.0	252.0	744.4	375.6	1 094.7	40.2
35452	Precision measuring tools:										
	Establishments with this product class primary	59	5.3	77.5	3.7	7.9	49.2	159.1	59.3	213.6	5.0
	Establishments with 75 percent specialization or more in class	54	3.2	49.1	2.1	4.4	29.4	98.3	40.3	133.3	(D)
35453	Other machine tool attachments and accessories:										
	Establishments with this product class primary	153	8.1	117.9	5.7	11.6	74.5	253.5	109.5	357 6	10.1
	Establishments with 75 percent specialization or more in class	115	5.9	87.0	4.2	8.3	53.7	195.5	81.2	272.1	8 7
3546	**Power driven hand tools:**										
	Entire industry	124	27.7	325.7	20.0	38.5	210.4	931.9	703.2	1 623 2	39 0
	Establishments with 75 percent specialization or more	113	23.3	270.7	17.2	32.8	179.1	775.7	621.2	1 380 0	34 6
35461	Electric hand tools:										
	Establishments with this product class primary	28	13.4	146.4	10.4	20.2	104.8	458.8	367.0	822 4	16 0
	Establishments with 75 percent specialization or more in class	23	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35462	Pneumatic, hydraulic, and powder actuated hand tools:										
	Establishments with this product class primary	32	8.0	113.4	4.9	9.6	63.9	252.5	95 2	343 4	8 5
	Establishments with 75 percent specialization or more in class	27	5.4	75.0	3.3	6.3	42.7	187.9	63 1	248 5	(D)
35463	Internal combustion engine driven hand tools:										
	Establishments with this product class primary	11	5.8	60.3	4.3	8.0	38 2	207.6	232 7	436 2	14 0
	Establishments with 75 percent specialization or more in class	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3547	**Rolling mill machinery:**										
	Entire industry	63	7.9	128.2	5.4	10.4	78.4	286.9	198.3	507.4	9.1
	Establishments with 75 percent specialization or more	53	5.5	91.6	3.7	7.2	54.4	180.5	104.3	314.2	7.3
35471	Hot rolling mill machinery, except tube rolling:										
	Establishments with this product class primary	13	4.6	76.7	3.2	6.0	47.4	177.9	120.5	326.5	5.3
	Establishments with 75 percent specialization or more in class	5	1.2	19.8	1.0	1.7	15.5	21.2	13.6	43.0	0.6
35472	Cold rolling mill machinery:										
	Establishments with this product class primary	10	1.1	19.4	0.8	1.6	12.6	44.5	23.9	66.3	1.7
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35473	Other rolling mill machinery:										
	Establishments with this product class primary	14	1.8	27.9	1.2	2.3	15.7	55.6	46.2	98.1	1.5
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3549	**Metalworking machinery, n.e.c.:**										
	Entire industry	534	19.4	279.5	12.8	25.2	154.1	562.2	389.1	916.8	30.7
	Establishments with 75 percent specialization or more	444	14.6	207.9	9.5	18.3	110.1	421.1	307.9	705.6	21.6
35492	Assembly machines:										
	Establishments with this product class primary	31	3.5	63.2	2.5	5.7	40.9	119.3	76.8	176.7	6.6
	Establishments with 75 percent specialization or more in class	18	1.2	21.6	0.8	1.8	14.2	37.3	35.4	65.8	1.9
35493	Welding and cutting apparatus, except electric:										
	Establishments with this product class primary	36	3.9	48.8	2.7	5.1	27.8	114.5	89.0	196.0	7.1
	Establishments with 75 percent specialization or more in class	31	3.7	44.6	2.6	4.8	26.2	105.8	82.5	181.4	(D)
35494	Automotive maintenance equipment:										
	Establishments with this product class primary	40	3.5	52.0	2.1	3.8	22.1	110.9	64.2	173.2	5.3
	Establishments with 75 percent specialization or more in class	31	2.7	42.1	1.7	3.1	17.8	88.1	52.5	138.8	4.6
35495	Other metalworking machinery:										
	Establishments with this product class primary	191	5.9	83.9	3.7	7.2	44.7	160.1	121.7	276.7	7.4
	Establishments with 75 percent specialization or more in class	136	4.4	63.6	2.7	5.3	33.4	122.0	93.8	212.4	5.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3541	Machine tools, metal cutting types.....1977..	2,812.7	2,353.9	337.0	121.8	87	2,560.5	2,353.9	206.6	92
	1972..	1,418.1	1,135.5	188.9	93.7	86	1,258.5	1,135.5	123.0	90
	1967..	2,127.2	1,715.7	269.7	141.8	86	1,907.8	1,715.7	192.3	90
3542	Machine tools, metal forming types.....1977..	1,130.6	967.1	111.6	51.9	90	1,114.7	967.1	147.6	87
	1972..	696.3	583.6	73.1	39.6	89	670.1	583.6	86.5	87
	1967..	714.0	568.4	99.5	46.1	85	676.6	568.4	108.1	84
3544	Special dies, tools, jigs, and fixtures.....1977..	3,905.3	3,498.4	219.0	187.9	94	4,450.2	3,498.4	951.8	79
	1972..	2,423.7	2,102.7	129.2	191.8	94	2,713.5	2,102.7	610.8	78
	1967..	2,202.3	1,875.3	110.6	216.4	94	2,520.2	1,875.3	1,044.8	74
3545	Machine tool accessories.....1977..	2,383.0	1,969.9	254.2	158.9	89	2,238.9	1,969.9	269.0	88
	1972..	1,243.4	1,002.6	164.7	76.1	86	1,151.4	1,002.6	148.8	87
	1967..	1,309.9	1,035.9	176.2	97.8	85	1,222.4	1,035.9	186.6	85
3546	Power driven handtools.....1977..	1,623.2	1,349.8	126.0	147.5	91	1,496.5	1,349.8	146.7	90
	1972..	[1]730.5	[1]570.9	[1]127.3	[1]32.3	[1]82	[1]622.9	[1]570.9	[1]52.0	[1]92
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
3547	Rolling mill machinery.....1977..	507.4	309.5	87.4	110.6	78	361.0	309.5	51.5	86
	1972..	327.8	212.4	74.1	41.3	74	247.9	212.4	35.5	86
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
3549	Metalworking machinery, n.e.c.....1977..	916.8	742.7	104.1	70.0	88	908.9	742.7	166.2	82
	1972..	427.3	341.9	47.8	37.6	88	411.3	341.9	69.4	83
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

n.e.c. Not elsewhere classified.
[1]Excludes plants primarily engaged in the manufacture of chain saws. See tables 1a and 1c.
[2]In 1972, industries 3546, 3547, and 3549 were established as separate industries. For 1967, data were not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Machine tools, metal cutting types (SIC 3541)	Machine tools, metal forming types (SIC 3542)	Special dies, tools, jigs, and fixtures (SIC 3544)	Machine tool accessories (SIC 3545)	Power driven hand tools (SIC 3546)	Rolling mill machinery (SIC 3547)	Metalworking machinery, n.e.c. (SIC 3549)	Other industries
	Total	(X)	2,812.7	1,130.6	3,905.3	2,383.0	1,623.2	507.4	916.8	(X)
	Primary products	(X)	2,353.9	967.1	3,498.4	1,969.9	1,349.8	309.5	742.7	(X)
	Secondary products	(X)	337.0	111.6	219.0	254.2	126.0	87.4	104.1	(X)
	Miscellaneous receipts	(X)	121.8	51.9	187.9	158.9	147.5	110.6	70.0	(X)
3541-	Machine tools, metal cutting types	2,560.5	2,353.9	30.5	14.4	47.5	(D)	(D)	(D)	101.6
35411	Boring machines, metal cutting	93.5	90.0	-	(D)	(D)	-	-	(D)	(D)
35412	Drilling machines, metal cutting	108.9	103.3	-	-	(D)	-	-	(D)	(D)
35413	Gear cutting and finishing machines	67.1	53.0	(D)	-	(D)	-	-	-	(D)
35414	Grinding, honing, lapping, and polishing machines	288.3	243.8	(D)	-	(D)	(D)	(D)	(D)	28.8
35415	Lathes, metalworking	455.9	446.9	(D)	-	(D)	-	-	(D)	5.9
35416	Milling machines, metalworking	167.8	150.1	12.3	-	-	-	-	(D)	(D)
35417	Other metal cutting machine tools	647.3	608.0	3.4	(D)	9.9	-	-	(D)	22.3
35418	Metalworking machine tools for workshops	66.3	51.8	(D)	(D)	-	(D)	-	(D)	(D)
35419	Parts for metal cutting type machine tools	502.1	461.2	7.6	(D)	8.1	-	-	(D)	20.2
35410	Machine tools, metal cutting types, n.s.k	163.3	145.8	.2	8.1	3.2	-	-	.9	5.0
3542-	Machine tools, metal forming types	1,114.7	34.9	967.1	1.9	4.1	-	22.8	3.7	80.3
35421	Punching, shearing, bending, and forming machines	280.1	4.8	257.1	(D)	(D)	-	(D)	(D)	15.4
35422	Metalworking presses	282.6	(D)	241.3	-	(D)	-	(D)	(D)	22.0
35423	Metal forming machine tools, n.e.c	171.7	(D)	140.4	(D)	(D)	-	(D)	(D)	17.6
35424	Metal forming machine tool parts	295.5	15.4	244.1	(D)	(D)	-	(D)	1.9	24.9
35420	Machine tools, metal forming types, n.s.k	85.0	-	84.3	-	-	-	.3	-	.4
3544-	Special dies, tools, jigs, and fixtures	4,450.2	3.3	11.9	3,498.4	37.9	-	-	16.3	882.4
35441	Special dies, tools, die sets, jigs, and fixtures	2,578.0	(D)	11.9	1,844.6	36.8	-	-	(D)	(D)
35442	Industrial molds (including mold bases)	1,040.0	(D)	-	832.7	.2	-	-	(D)	(D)
35440	Special dies, tools, jigs, and fixtures, n.s.k	832.2	.2	-	821.1	.9	-	-	-	10.0
3545-	Machine tool accessories	2,238.9	131.5	(D)	39.0	1,969.9	-	(D)	(D)	91.0
35451	Small cutting tools for machine tools	1,376.4	73.2	(D)	12.5	1,247.9	-	-	(D)	37.8
35452	Precision measuring tools	208.2	23.6	-	6.7	172.7	-	-	.9	4.4
35453	Other machine tools attachments and accessories	430.9	34.7	(D)	16.7	336.7	-	(D)	(D)	41.6
35450	Machine tools accessories, n.s.k	223.5	-	-	3.1	212.6	-	-	.4	7.5
3546-	Power driven hand tools	1,496.5	.5	(D)	-	(D)	1,349.8	.3	-	(D)
35461	Electric hand tools	748.7	-	(D)	-	(D)	706.1	-	-	(D)
35462	Pneumatic, hydraulic, and powder actuated hand tools	371.1	-	-	-	-	271.7	-	-	99.4
35463	Internal combustion engine driven hand tools	347.1	-	-	-	-	144.8	-	-	2.3
35460	Power driven hand tools, n.s.k	29.6	.5	-	-	.5	27.1	.3	-	1.1
3547-	Rolling mill machinery	361.0	-	10.7	-	(D)	-	309.5	(D)	(D)
35471	Hot rolling mill machinery, except tube rolling	147.0	-	-	-	-	-	127.8	-	19.2
35472	Cold rolling mill machinery	74.9	-	(D)	-	-	-	(D)	(D)	(D)
35473	Other rolling mill machinery	120.8	-	(D)	-	(D)	-	(D)	4.6	(D)
35470	Rolling mill machinery, n.s.k	18.3	-	-	-	-	-	18.0	.1	.2
3549-	Metalworking machinery, n.e.c	908.9	17.9	(D)	10.3	.6	(D)	25.4	742.7	101.8
35492	Assembly machines	128.4	8.3	(D)	(D)	(D)	-	-	115.1	2.7
35493	Welding and cutting apparatus, except electric	213.7	(D)	-	.5	(D)	-	(D)	174.0	38.1
35494	Automotive maintenance equipment	188.0	(D)	-	(D)	-	-	-	142.5	(D)
35495	Other metalworking machinery	294.9	7.7	2.2	8.6	.4	(D)	(D)	229.7	(D)
35490	Metalworking machinery, n.e.c., n.s.k	84.0	.1	(Z)	.1	-	-	-	81.5	2.2
	Other shipments by 4-digit product group:									
2899-	Chemcial preparations, n.e.c	(X)	(D)	-	-	(D)	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	9.3	(D)	(D)	-	(D)	(X)
3291-	Abrasive products	(X)	(D)	-	(D)	2.2	-	-	-	(X)
3321-	Gray iron castings	(X)	(D)	(D)	-	(D)	-	(D)	(D)	(X)
3369-	Nonferrous castings, n.e.c	(X)	-	-	(D)	-	-	-	(D)	(X)
3399-	Primary metal products, n.e.c	(X)	-	-	(D)	(D)	-	-	-	(X)
3423-	Hand and edge tools, n.e.c	(X)	(D)	(D)	(D)	(D)	(D)	-	(D)	(X)
3425-	Hand saws and saw blades	(X)	(D)	-	-	(D)	(D)	-	-	(X)
3429-	Hardware, n.e.c	(X)	-	-	(D)	-	-	-	(D)	(X)
3433-	Heating equipment, except electric	(X)	-	-	-	-	-	(D)	-	(X)
3441-	Fabricated structural metal	(X)	(D)	(D)	-	-	-	-	(D)	(X)
3465-	Automotive stampings	(X)	-	-	7.5	-	-	-	-	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	-	10.4	(D)	-	(D)	(D)	(X)
3483-	Ammunition, except for small arms, n.e.c	(X)	-	-	-	(D)	-	-	-	(X)
3489-	Ordnance and accessories, n.e.c	(X)	-	-	-	(D)	-	-	-	(X)
3499-	Fabricated metal products, n.e.c	(X)	(D)	(D)	19.8	11.7	-	-	(D)	(X)
3519-	Internal combustion engines, n.e.c	(X)	-	-	(D)	-	(D)	-	-	(X)
3524-	Lawn and garden equipment	(X)	-	-	(D)	(D)	(D)	-	-	(X)
3531-	Construction machinery	(X)	(D)	-	-	(D)	(D)	-	-	(X)
3532-	Mining machinery	(X)	(D)	-	(D)	(D)	-	(D)	-	(X)
3533-	Oil field machinery	(X)	(D)	(D)	-	(D)	-	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** – Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Machine tools, metal cutting types (SIC 3541)	Machine tools, metal forming types (SIC 3542)	Special dies, tools, jigs, and fixtures (SIC 3544)	Machine tool accessories (SIC 3545)	Power driven hand tools (SIC 3546)	Rolling mill machinery (SIC 3547)	Metalworking machinery, n.e.c. (SIC 3549)	Other industries
	Other shipments by 4-digit product code--Con.									
3535-	Conveyors and conveying equipment	(X)	(D)	-	(D)	-	-	-	(D)	(X)
3551-	Food products machinery	(X)	(D)	(D)	(D)	(Z)	-	-	(D)	(X)
3553-	Woodworking machinery	(X)	(D)	(D)	(D)	(D)	(D)	-	(D)	(X)
3554-	Paper industries machinery	(X)	-	-	(D)	(D)	-	(D)	-	(X)
3559-	Special industry machinery, n.e.c	(X)	(D)	7.7	14.3	(D)	(D)	(D)	(D)	(X)
3561-	Pumps and pumping equipment	(X)	(D)	(D)	-	(D)	(D)	-	-	(X)
3566-	Speed changers, drives, and gears	(X)	(D)	-	-	-	-	-	-	(X)
3567-	Industrial furnaces and ovens	(X)	(D)	-	(D)	-	-	-	-	(X)
3568-	Power transmission equipment, n.e.c	(X)	-	(D)	-	-	(D)	-	-	(X)
3569-	General industrial machinery, n.e.c	(X)	(D)	(D)	2.8	-	-	(D)	(D)	(X)
3586-	Measuring and dispensing pumps	(X)	-	-	-	(D)	(D)	-	-	(X)
3599-	Machinery, except electrical, n.e.c	(X)	3.0	(D)	9.9	2.6	(D)	-	2.6	(X)
3621-	Motors and generators	(X)	(D)	-	-	(D)	(D)	(D)	-	(X)
3623-	Welding apparatus, electric	(X)	-	(D)	(D)	-	-	(D)	(D)	(X)
3639-	Household appliances, n.e.c	(X)	-	-	-	-	-	(D)	-	(X)
3643-	Current-carrying wiring devices	(X)	-	-	(D)	-	-	-	(D)	(X)
3662-	Radio and TV communication equipment	(X)	-	-	-	-	-	-	(D)	(X)
3678-	Electronic connectors	(X)	-	-	(D)	-	-	-	(D)	(X)
3711-	Motor vehicles and car bodies	(X)	-	-	(D)	-	-	-	-	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	(D)	-	-	-	-	(X)
3728-	Aircraft equipment, n.e.c	(X)	(D)	-	(D)	-	(D)	-	(D)	(X)
3823-	Process control instruments	(X)	-	-	-	(D)	-	-	(D)	(X)
3829-	Measuring and controlling devices, n.e.c	(X)	(D)	(D)	-	(D)	-	-	(D)	(X)
3873-	Watches, clocks, and watchcases	(X)	(D)	-	-	-	-	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	21.5	3.3	37.9	12.3	(Z)	13.7	7.4	(X)
93000 35	Receipts for precision machining on materials owned by others	(X)	12.7	4.8	61.7	10.2	(D)	(D)	11.3	(X)
99980 13	Sales of scrap and refuse	(X)	.4	.8	1.7	2.9	.9	(D)	(D)	(X)
99980 31	Receipts for installation	(X)	3.0	(D)	.2	(D)	(D)	3.4	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	.1	(D)	2.8	(D)	(Z)	(D)	(Z)	(X)
99980 61	Receipts for repair work	(X)	28.4	14.3	17.3	8.8	(D)	(D)	5.7	(X)
99980 98	Other miscellaneous receipts	(X)	11.1	7.1	9.0	5.4	(D)	18.9	6.3	(X)
99989 00	Resales	(X)	44.6	20.9	57.3	118.8	141.3	53.6	36.5	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3541-	3291 Abrasive products	(D)
	3321 Gray iron foundries	(D)
	3423 Hand and edge tools, n.e.c	(D)
	3553 Woodworking machinery	(D)
	3559 Special industry machinery	(D)
3542-	2396 Automotive and apparel trimmings	(D)
	3431 Metal sanitary ware	(D)
	3452 Bolts, nuts, rivets, and washers	(D)
	3559 Special industry machinery, n.e.c	12.0
	3623 Welding apparatus, electric	(D)
	3714 Motor vehicle parts and accessories	(D)
3544-	3079 Miscellaneous plastics products	(D)
	3324 Steel investment foundries	5.7
	3361 Aluminum foundries	44.9
	3369 Nonferrous foundries, n.e.c	(D)
	3429 Hardware, n.e.c	(D)
	3462 Iron and steel forgings	(D)
	3463 Nonferrous forgings	7.8
	3465 Automotive stampings	(D)
	3469 Metal stampings, n.e.c	(D)
	3499 Fabricated metal products, n.e.c	(D)
	3559 Special industry machinery	15.7
	3599 Machinery, except electrical, n.e.c	(D)
	3647 Vehicular lighting equipment	(D)
3544-	3678 Electronic connectors	(D)
	3711 Motor vehicles and car bodies	(D)
	3714 Motor vehicle parts and accessories	(D)
3545-	3423 Hand and edge tools, n.e.c	14.9
	3425 Hand saws and saw blades	(D)
	3519 Internal combustion engines, n.e.c	(D)
	3532 Mining machinery	(D)
3546-	3315 Steel wire and related products	(D)
	3423 Hand and edge tools, n.e.c	(D)
	3452 Bolts, nuts, rivets, and washers	6.1
	3496 Miscellaneous fabricated wire products	(D)
	3519 Internal combustion engines, n.e.c	(D)
	3524 Lawn and garden equipment	(D)
	3536 Hoists, cranes, and monorails	(D)
3547-	3325 Steel foundries, n.e.c	(D)
	3566 Speed changers, drives, and gears	(D)
	3795 Tanks and tank components	(D)
3549-	3469 Metal stampings, n.e.c	(D)
	3559 Special industry machinery	(D)
	3586 Measuring and dispensing pumps	(D)
	3623 Welding apparatus, electric	(D)
	3714 Motor vehicle parts and accessories	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MACHINE TOOLS, METAL CUTTING TYPES						
3541- --	Total	.....	(NA)	(X)	2,560.5	(X)	1,258.5
35411 --	Boring machines:						
	As reported in census of manufactures	.....	39	(X)	93.5	(X)	58.7
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	761	84.9	526	54.1
	Horizontal boring, drilling, and milling machines:						
35411 11	Table type, except rotary		(NA)	81	23.3	(D)	(D)
35411 15	Floor type, including rail mounted		(NA)	88	15.4		
35411 55	Precision boring machines, all types		(NA)	509	32.0	247	18.3
35411 72	Jig boring machines, horizontal and vertical		(NA)	83	14.2	(D)	(D)
35411 92	All other boring machines, except boring lathes	Number	(NA)	-	-		
35412 --	Drilling machines:						
	As reported in census of manufactures	.....	58	(X)	108.9	(X)	73.7
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	42,815	107.2	36,452	65.8
	Machines valued $1,000 and over:						
35412 15	Sensitive drilling machines, floor and pedestal type		(NA)	(D)	(D)	404	2.1
	Vertical (upright) drilling machines:						
35412 21	Plain upright		(NA)	1,530	3.9	126	.8
35412 23	Heavy duty, manufacturing		(NA)	249	5.9	686	14.6
35412 25	Indexing turret head, fixed column and table		(NA)	(D)	(D)		
	Radial drilling machines:						
	Plain and universal:						
35412 31	Under 13 inch column		(NA)	68	2.1	131	1.8
35412 35	13 inch column and over		(NA)	(D)	(D)	140	2.2
	Multiple-spindle drilling machines (cluster of spindles driven from one central power unit):						
35412 52	Adjustable joint and fixed center types		(NA)	(D)	(D)	[3]297	[3]4.0
35412 61	Automatic drilling machines (combination, horizontal, vertical, and opposed heads)		(NA)	(D)	(D)	412	14.6
35412 69	All other automatic multiple-spindle drilling machines		(NA)	105	6.4	54	4.1
35412 92	All other drilling machines, n.e.c., including bench type sensitive, vertical, radial, and deep hole		(NA)	2,202	11.2	475	12.8
35412 98	Machines valued under $1,000	Number	(NA)	36,971	12.8	33,727	8.8
35413 --	Gear cutting machines:						
	As reported in census of manufactures	.....	17	(X)	67.1	(X)	56.7
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	624	61.4	765	50.3
35413 12	Gear hobbers, horizontal and vertical		(NA)	([4])	([4])	336	16.5
35413 71	Gear tooth finishing machines		(NA)	([5])	([5])		
35413 31	Gear shapers, external spar and helical		(NA)	[4]240	[4]18.6		
35413 54	Bevel gear generators		(NA)	[5]384	[5]42.8	429	33.8
35413 99	All other gear cutting machines	Number	(NA)	-	-		
35414 --	Grinding and polishing machines, excluding gear tooth grinding, lapping, polishing, and buffing machines:						
	As reported in census of manufactures	.....	94	(X)	288.3	(X)	168.6
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	95,234	273.1	99,016	151.0
	Machines valued $1,000 and over:						
	External cylindrical grinding machines:						
35414 11	Plain, including angular wheel types		(NA)	172	19.0	160	9.4
35414 13	Universal		(NA)	204	9.7		
35414 15	Roll grinders		(NA)				
35414 16	Centerless grinders, including shoe type		(NA)	(D)	(D)	684	37.1
35414 17	Chucking grinders		(NA)				
35414 19	All other		(NA)				
	Internal cylindrical grinding machines:						
35414 21	Plain and chucking type		(NA)	781	50.6		
35414 25	Centerless		(NA)			(D)	(D)
	Surface grinding machines:						
35414 33	Rotary table type, horizontal and vertical		(NA)	271	14.5	(D)	(D)
	Reciprocating table type, including face grinders:						
35414 35	Vertical		(NA)	(D)	(D)	(D)	(D)
35414 36	Horizontal		(NA)	1,632	21.1	1,225	10.3
35414 37	Hand surface type		(NA)	2,581	11.6	2,221	6.2
35414 39	All other surface grinding machines, including planer type		(NA)	(D)	(D)	55	.6
35414 45	Disc grinders (bench and floor), snag grinders, and abrasive belt grinders		(NA)	1,066	12.6	[6]556	[6]8.7
35414 52	Tool and cutter grinding machines, including universal and special	Number	(NA)	2,079	19.0	1,789	11.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MACHINE TOOLS, METAL CUTTING TYPES--Con.						
35414 --	Grinding and polishing machines, excluding gear tooth grinding lapping, polishing, and buffing machines--Con.						
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery--Con.						
	Machines valued $1,000 and over--Con.						
35414 92	All other grinding machines, n.e.c., including electrochemical and thread grinding machines	Number	(NA)	1,266	15.0	[6]1,144	[6]10.7
	Honing and lapping machines, except gear honing and lapping:						
35414 75	Internal, including combination bore-hone and external		(NA)			(D)	(D)
35414 79	Flat surface lapping machines		(NA)				
35414 93	All other honing and lapping machines, including combination honing and lapping and cylindrical surface lapping machines		(NA)	2,445	21.9	446	3.7
	Polishing and buffing machines:						
35414 65	Polishing stands (bench and floor), abrasive belt, drum, and disc (not grinding)		(NA)	372	7.5	868	4.3
35414 69	All other polishing and buffing machines, including speed lathe and multistation type		(NA)	1,102	19.0	820	5.8
35414 97	Machines valued under $1,000	Number	(NA)	80,484	12.3	87,224	10.7
35415 --	Lathes:						
	As reported in census of manufactures		57	(X)	455.9	(X)	197.6
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	11,249	436.3	12,295	203.2
	Machines valued $1,000 and over:						
	Manufacturing and tool room lathes:						
	Engine or tool room (light and heavy duty):						
	Swing over cross slide:						
35415 14	Up to and including 8 inch		(NA)	4,510	53.4	4,383	28.4
35415 22	9 inch to 16 inch		(NA)				
35415 23	17 inch to 23 inch		(NA)	(D)	(D)	126	4.0
35415 25	24 inch to 36 inch		(NA)				
35415 29	Over 36 inch		(NA)	(D)	(D)	53	6.5
35415 37	All other manufacturing and tool/room lathes, including multitool automatics and hollow spindle oil field		(NA)	1,804	18.7	(D)	(D)
	Turret lathes, horizontal type:						
35415 55	Saddle type		(NA)				
35415 53	Ram type		(NA)	(D)	(D)	665	22.0
	Automatic chucking lathes:						
	Single spindle:						
35415 62	With index turret		(NA)	790	72.2	547	27.3
35415 64	Without index turret		(NA)	(D)	(D)		
35415 65	Multiple spindle		(NA)	214	37.9	182	17.0
35415 72	Automatic between-center lathes		(NA)	141	23.0	107	8.0
	Screw (bar) machines:						
35415 81	Single spindle		(NA)	(D)	(D)	1,107	42.8
35415 88	Multiple spindle		(NA)	696	61.4		
35415 84	Vertical turning and boring mills (VTL and VBM)		(NA)	121	38.5	(D)	(D)
35415 99	All other lathes, including boring and combination boring and turning		(NA)	712	29.9	(D)	(D)
35415 08	Machines valued under $1,000	Number	(NA)	(D)	(D)	(D)	(D)
35416 --	Milling machines:						
	As reported in census of manufactures		40	(X)	167.8	(X)	86.6
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	12,479	160.2	23,607	81.7
	Machines valued $1,000 and over:						
	Knee type, except bench type:						
35416 22	Horizontal plain, universal and ram		(NA)			383	9.2
35416 25	Vertical, except ram		(NA)				
35416 27	Vertical ram (swivel head and turret type)		(NA)	10,365	93.9	11,134	40.0
35416 29	All other knee-type		(NA)				
	Bed-type milling machines:						
35416 31	Single spindle		(NA)	586	9.2	459	6.5
35416 35	Multiple spindle and special purpose		(NA)	(D)	(D)	47	3.5
35416 52	Profile machines and duplicators, including spar millers		(NA)	208	18.5	67	7.7
35416 63	Die sinking and engraving machines, drum type millers, and pantograph and cam millers		(NA)	(D)	(D)	172	1.6
35416 92	All other milling machines, n.e.c., including planer type, skin millers, thread milling machines, and bench millers		(NA)	183	30.6	(D)	(D)
35416 98	Machines valued under $1,000	Number	(NA)	(D)	(D)	(D)	(D)

See footnotes at end of table.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MACHINE TOOLS, METAL CUTTING TYPES--Con.						
35417 --	Other metal cutting type machine tools (except those designed primarily for home workshops, laboratories, etc.), including broaching machines, planers, shapers (except gear shapers and slotters), sawing and cutoff machines, tapping machines, threading machines, and multifunction N/C machines, n.e.c.:[7]						
	As reported in census of manufactures	.....	94	(X)	647.3	(X)	236.2
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number.....	(NA)	56,855	668.1	34,629	251.9
	Machines valued $1,000 and over:						
35417 15	Broaching machines		(NA)	166	20.5	96	7.4
35417 23	Planers and shapers, all types, except gear shapers and slotters		(NA)	(D)	(D)	(D)	(D)
	Sawing and cutoff machines:						
35417 37	Power hacksaws		(NA)	(D)	(D)	205	0.9
35417 39	Circular cutoff saws (cold)		(NA)	879	9.9	194	2.6
35417 41	Abrasive wheel saws		(NA)			741	2.1
35417 43	Band saws		(NA)	7,080	32.0	3,797	9.1
35417 47	Contour sawing and filing machines, including band type		(NA)	(D)	(D)	1,056	3.7
35417 45	All other sawing and cutoff machines, including friction		(NA)	342	12.0	1,327	4.3
35417 48	Tapping machines		(NA)	328	3.8	610	3.9
	Multifunction N/C machines, n.e.c. (machining centers):						
35417 62	Drill, mill and bore (manual tool change), vertical and horizontal		(NA)	311	27.3	(D)	(D)
35417 64	Drill, mill and bore (indexing turret)		(NA)			(D)	(D)
	Drill, mill and bore (automatic tool change):						
35417 68	Vertical		(NA)	482	54.4	162	14.7
35417 69	Horizontal		(NA)	408	93.4	145	25.1
35417 73	Station and transfer machines containing multiple stations for boring, broaching, drilling, grinding, turning, milling, tapping, reaming, counter boring, measuring, etc., including way, rotary index, center column, trunnion, plain, or pallet transfer types)		(NA)	885	318.9	674	132.6
35417 77	Electrical discharge machines (EDM)		(NA)	1,043	19.0	860	9.5
35417 90	Miscellaneous metal cutting machine tools, including rifling, centering, keyseating, pointing, chamfering, facing, shaving, grooving, counter-sinking, burring, forming, drilling, threading, electrochemical, reaming, and screw and nut slotting machines		(NA)	41,163	37.5	(D)	(D)
35417 98	Machines valued under $1,000	Number.....	(NA)	41.2	20.7	23,543	10.7
35418 --	Machine tools designed primarily for home workshops, laboratories, garages (metal working and primarily metal working only)[7]	.....	(NA)	(X)	66.3	(X)	66.9
35418 11	Drilling machines	Thousands....	6	(S)	3.4	(S)	2.3
35418 31	Grinding and polishing machines, including crankshaft regrinding, and valve grinding machines		10	173.9	16.2	1,498.4	10.1
35418 51	Lathes		2	([8])	([8])	1,301.1	4.4
35418 71	Sawing and cutoff machines		5	*7.3	13.8	(S)	17.7
35418 91	Other metal working or primarily metal working types, including automotive cylinder-boring machines)	Thousands....	21	(S)	[8]28.2	(S)	28.1
35418 00	Machine tools designed primarily for home workshops, laboratories, and garages, n.s.k	.....	(NA)	(X)	4.8	(X)	4.3
35419 --	Parts for metal cutting type machine tools, sold separately, and rebuilt machine tools	.....	(NA)	(X)	502.1	(X)	242.1
35419 11	Parts for metal cutting type machine tools, sold separately.	.....	148	(X)	418.0	(X)	202.3
35419 41	Rebuilt metal cutting type machine tools	.....	48	(X)	82.7	(X)	36.4
35419 00	Parts for metal cutting type machine tools, sold separately, and rebuilt machine tools, n.s.k	.....	(NA)	(X)	1.4	(X)	3.4
35410 00	Machine tools, metal cutting types, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	90.0	(X)	49.3
35410 02	Machine tools, metal cutting types, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	73.3	(X)	22.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MACHINE TOOLS, METAL FORMING TYPES						
3542- --	Total	.....	(NA)	(X)	1,114.7	(X)	670.1
35421 --	Punching, shearing, bending, and forming machines:						
35421 10	As reported in census of manufactures	.....	76	(X)	280.1	(X)	153.4
35421 20	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	41,316	267.9	30,795	130.4
	Punching and shearing machines:						
	Machines valued $1,000 and over:						
	Power-operated:						
35421 11	Punches, including combination punching and shearing machines		(NA)	1,653	15.4	852	17.5
35421 16	Punching machines, fixed position and two axes positioning table		(NA)	767	54.2	(D)	(D)
35421 13	Plate shearing machines (squaring, slitting, etc.)		(NA)	1,254	44.3	1,602	22.7
35421 15	Bar and angle and rotary shearing machines		(NA)	234	2.4	624	11.6
35421 19	Other power-operated punching and shearing machines		(NA)	507	10.1	400	5.8
35421 09	Manually operated		(NA)	847	1.8	(D)	(D)
35421 97	Machines valued under $1,000		(NA)	5,674	2.5	3,669	1.5
	Bending and forming machines:						
	Machines valued $1,000 and over:						
35421 31	Bending rolls, sheet, and plate (power)		(NA)	450	9.4	889	6.0
35421 35	Bending rolls, angles, bars, and shapes (power)		(NA)	1,548	43.6	1,786	24.6
35421 38	Press brakes and folders (power)		(NA)				
35421 42	Rotary bending and forming machines (power)		(NA)			1,124	4.4
35421 46	Rotary head and ram bending machines (pipe, bar, etc.) (power)		(NA)	3,523	26.5	565	5.8
35421 49	Other bending and forming machines (power or manual)		(NA)	6,275	51.4	3,835	20.5
35421 98	Machines valued under $1,000	Number	(NA)	18,584	6.3	15,057	6.6
35421 00	Punching, shearing, bending, and forming machines, n.s.k.	.....	(NA)	(X)	-	(X)	-
35422 --	Metalworking presses, including forging and manual presses:						
	As reported in census of manufactures	.....	69	(X)	282.6	(X)	183.2
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	16,194	260.7	[9]23,454	[9]166.7
	Machines valued $1,000 and over:						
	Mechanical:						
	Open inclinable gap type:						
35422 12	50 tons and under		(NA)	3,373	16.2	1,612	10.0
35422 13	51 tons and over		(NA)	898	27.2	1,282	19.7
	Vertical straight sided and arch frame, excluding knuckle joint, but including cam and crank:						
	Single action:						
	Single point:						
35422 14	200 tons and under		(NA)	(D)	(D)	46	.9
35422 15	201 tons and over		(NA)	(D)	(D)	45	7.0
	Two point:						
35422 17	300 tons and under		(NA)	292	27.4	242	12.7
35422 18	301 tons and over		(NA)	66	23.1	52	12.8
35422 25	Four point		(NA)	(D)	(D)	52	14.6
35422 35	Knuckle joint, all tonnages and horizontal		(NA)	(D)	(D)	(D)	(D)
35422 42	Gap and horn type		(NA)	386	7.1	219	3.7
	Automatic high speed presses, strip or coil fed:						
35422 43	50 tons and under		(NA)	167	9.9	190	4.7
35422 48	51 tons and over		(NA)	(D)	(D)	545	21.2
35422 53	All other mechanical presses, including end wheel type, bulldozers, double and triple action, and transfer fed presses, but excluding automated lines of standard equipment		(NA)	133	22.1	241	14.5
	Hydraulic presses, metalworking only:						
	Vertical single action, all tonnages:						
35422 55	Housing or straight column type		(NA)	170	4.8	169	6.0
35422 56	Open rod type		(NA)	348	8.7	(D)	(D)
35422 57	Gap or C-frame types		(NA)	1,667	8.0	[10]	[10]
35422 73	Vertical double action 2-slide type		(NA)	(D)	(D)	(D)	(D)
35422 77	Extrusion presses, all types		(NA)	(D)	(D)	[10]1,342	[10]10.5
35422 92	Other hydraulic presses, including horizontal		(NA)	1,611	17.3	(D)	(D)
35422 11	Machines valued under $1,000	Number	(NA)	6,540	2.8	16,365	4.4
35423 --	Other metal forming machine tools, including forging machines	.....	(NA)	(X)	171.7	(X)	149.0
35423 40	Die-casting machinery	.....	[9]	(X)	25.8	(X)	14.1
	Other metal forming machine tools:						
35423 10, 20, 30, 50, 60, 90	As reported in census of manufactures	.....	48	(X)	145.9	(X)	134.9
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery	Number	(NA)	7,056	133.6	5,526	114.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3542- --	MACHINE TOOLS, METAL FORMING TYPES--Con.						
35423 --	Other metal forming machine tools, including forging machines--Con.						
	Other metal forming machine tools--Con.						
	As reported in Current Industrial Reports MQ-35W, Metalworking Machinery--Con.						
	Machines valued $1,000 and over:						
	Forging machines, except presses:						
35423 27	Headers and upsetters	Number	(NA)			501	23.9
35423 31	Swaging machines		(NA)	494	55.1		
35423 37	Other forging machines, including hammers (steam or air and mechanical)		(NA)			137	10.6
35423 42	Gear and spline rolling machines		(NA)	(D)	(D)	(D)	(D)
35423 43	Thread rolling machines		(NA)	203	7.1	234	4.7
35423 45	Spinning lathes (flow turn, hydrospin, and spin forge)		(NA)	(D)	(D)	(D)	(D)
35423 47	Marking machines, knurling machines, etc		(NA)	(D)	(D)		
35423 49	Riveting machines, excluding handheld portable type		(NA)	2,969	14.6	2,263	7.3
35423 91	All other metal forming type machine tools, n.e.c., including can, barrel, and drum metal container making machines, electroforming and high energy rate metal forming machines, except die-casting machinery		(NA)	2,160	52.3	1,707	65.0
35423 98	Machines valued under $1,000	Number	(NA)	998	0.4	577	.2
35423 00	Other metal forming machine tools, including forging machines, n.s.k		(NA)	(X)	-	(X)	-
35424 --	Metal forming machine tool parts and rebuilt metal forming machine tools		(NA)	(X)	295.5	(X)	161.5
35424 11	Parts for metal forming machine tools, except parts and attachments for power driven handtools (sold separately)		104	(X)	273.7	(X)	147.9
35424 75	Rebuilt metal forming machine tools		11	(X)	8.3	(X)	13.6
35424 00	Metal forming machine tool parts and rebuilt metal forming machine tools, n.s.k		(NA)	(X)	13.5	(X)	-
35420 00	Machine tools, metal forming types, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	27.4	(X)	16.7
35420 02	Machine tools, metal forming types, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	57.6	(X)	6.3
	SPECIAL DIES, TOOLS, JIGS, AND FIXTURES						
3544- --	Total		(X)	(X)	4,450.2	(X)	2,713.5
35441 --	Special dies and tools, die sets, jigs, and fixtures		(X)	(X)	2,578.0	(X)	1,520.1
	Jigs and fixtures, all types:						
	Gaging and checking types:						
35441 13	Under 1,000 pounds weight	Million lb	215	(X)	149.6	(S)	80.4
35441 15	1,000 pounds weight and over		57	(X)	47.9	(S)	25.6
	All other jigs and fixtures (holding, positioning, layout, assembly, etc.):						
35441 17	Under 1,000 pounds weight		298	(X)	214.2	(S)	124.9
25441 18	1,000 pounds weight and over	Million lb	129	(X)	142.5	(S)	61.8
35441 19	Standard catalog components and parts for jigs and fixtures, including drill bushings		42	(X)	44.4	(X)	25.8
	Dies:						
35441 21	Press brake dies	Million lb	38	(X)	32.0	(S)	148.9
	Forming and drawing dies:						
35441 22	500 pounds weight and under		161	(X)	67.9	(S)	44.9
35441 24	501 to 3,000 pounds weight		155	(X)	119.9	(S)	69.9
35441 26	Over 3,000 pounds weight	Million lb	94	(X)	208.9	59.8	83.8
	Stamping dies, including lamination and blanking dies:						
	Progressive type dies:						
35441 27	High speed steel		437	(X)	187.0	(X)	98.5
35441 28	Carbide		84	(X)	52.3	(X)	30.2
35441 29	All other stamping type dies (punch, trim, notch, perforate, etc.)		331	(X)	407.7	(X)	204.4
	Forging dies, including cold forging and heading:						
35441 33	Open die type		37	(X)	17.6	(X)	7.5
35441 35	Closed die type		76	(X)	44.5	(X)	30.9
	Extrusion, wiredrawing, and straightening dies:						
35441 43	High speed steel		30	(X)	21.3	(X)	7.5
35441 45	Carbide		41	(X)	18.0	(X)	12.0
35441 49	All other dies		212	(X)	140.8	(X)	97.7
	Standard and special components and parts for dies:						
35441 73	Die sets		56	(X)	56.1	(X)	29.2
35441 79	Other, including standard punches, springs, etc		113	(X)	112.8	(X)	51.8
35441 91	Other specially designed tooling, prototypes, and models		401	(X)	333.3	(X)	148.5
35441 00	Special dies and tools, die sets, jigs, and fixtures, n.s.k		(X)	(X)	159.5	(X)	135.9

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SPECIAL DIES, TOOLS, JIGS, AND FIXTURES--Con.						
35442 --	Industrial molds	.....	(X)	(X)	1,040.0	(X)	640.3
	Industrial molds made of metal:						
	For casting metals:						
35442 11	Diecasting dies (molds)	.....	171	(X)	139.1	(X)	93.6
35442 13	Foundry molds, except ingot molds	.....	47	(X)	35.8	X	14.3
35442 33	For molding rubber products, including tire molds	.....	64	(X)	73.0	(X)	48.5
	For molding plastics:						
35442 51	Injection molds	.....	507	(X)	442.2	(X)	301.0
35442 55	Compression molds, including matched metal molds	.....	86	(X)	34.7	(X)	33.7
35442 59	All other molds, including transfer, plunger, and rotational molds	.....	63	(X)	33.5	(X)	21.3
35442 61	All other molds made of metal, including molds for glass and other materials and mold bases	.....	47	(X)	104.0	(X)	69.3
35442 63	Industrial molds made of materials other than metal	.....	16	(X)	14.6	(X)	13.8
35442 00	Industrial molds, n.s.k.	.....	(X)	(X)	163.1	(X)	44.8
35440 00	Special dies, tools, jigs, and fixtures, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	574.2	(X)	340.9
35440 02	Special dies, tools, jigs, and fixtures, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	258.0	(X)	212.2

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	MACHINE TOOL ACCESSORIES			
3545- --	Total	(NA)	2,238.9	1,151.4
35451 --	Small cutting tools for machine tools and metalworking machinery	(NA)	1,376.4	738.0
	Broaches, excluding holders and burnishing bars:			
35451 13	High speed steel	22	43.3	34.6
35451 15	Carbide, or special cast alloy, etc.	3	3.2	4.3
	Twist drills, excluding combined drills, countersinks, and gun drills:			
	Carbon steel and high speed steel:			
35451 16	1/2 inch and under diameter, taper shank	12	16.2	97.9
35451 17	1/2 inch and under diameter, straight shank	20	123.0	
35451 18	Over 1/2 inch diameter, taper shank	14	17.0	
35451 19	Over 1/2 inch diameter, straight shank	16	29.8	
35451 24	Carbide, solid and tipped, excluding tips and blanks sold separately and masonry drills	25	24.6	22.3
35451 22	Masonry drill bits	10	6.6	
35451 25	Gun drills and gun reamers	11	13.7	7.2
35451 26	Combination drills and countersinks	8	8.3	4.3
35451 27	Countersinks, including port cutters, etc., but excluding combined drills and countersinks and pilots for interchangeable pilot types	13	6.2	5.6
35451 29	Counterbores, including spot facers, etc., but excluding pilots for interchangeable pilot types	24	17.5	9.6
	Reamers, all types, excluding gun reamers:			
35451 31	Carbon steel, including blades sold separately	9	2.4	2.8
35451 33	High speed steel, including blades sold separately	26	20.6	17.1
35451 36	Carbide, solid and tipped, including replaceable blades sold separately, but excluding tips and blanks sold separately	26	14.1	11.5
35451 42	Hobs, all types	7	24.9	18.3
35451 47	Gear shaper cutters and gear shaving cutters	9	24.0	4.6
	End mills and milling cutters:			
	End mills, solid and tipped, die sinking contour, router, tracer, hollow mills, etc., excluding inserted blade types and shell mills:			
35451 51	High speed steel	27	64.0	40.2
35451 52	Carbide, solid and tipped, excluding blades sold separately	21	13.8	7.2
	Inserted blade type cutters, all types, complete:			
	Nonindexible:			
35451 43	High speed steel	7	4.7	11.8
35451 44	Carbide	9	10.9	
	Indexible or throwaway insert type:			
35451 48	High speed steel	5	4.0	3.5
35451 49	Carbide	12	14.3	
35451 58	Form relieved cutters, solid and tipped, including high speed steel and carbide	19	14.6	6.6
35451 59	Slitting saws and screw slotting cutters, solid and tipped, including high speed steel and carbide	14	9.3	6.9
	Milling cutters, n.e.c.:			
35451 61	High speed steel	26	46.5	19.0
35451 63	Carbide, solid and tipped, excluding tips and blanks sold separately	15	4.6	5.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	MACHINE TOOL ACCESSORIES--Con.			
35451 --	Small cutting tools for machine tools and metalworking machinery--Con.			
	Single and double point tools:[11]			
35451 65	High speed steel	20	9.4	8.7
35451 66	Carbide, solid and tipped, excluding rough blanks, and tips and blanks sold separately	37	46.6	30.7
35451 68	Other materials	4	5.6	8.1
35451 72	Circular form tools, including semifinished blanks	13	12.9	8.6
	Threading tools:			
	Taps, excluding taps in threading sets and screw plates and inserted chaser types:			
35451 76	Carbon steel	8	5.4	6.0
	High speed steel:			
35451 70	Cut thread	10	8.3	
35451 71	Ground thread	22	97.6	57.9
35451 78	Carbide, solid and tipped	1	.2	
35451 73	Dies, with two or more thread-forming edges integral with the body, including round, square, hexagonal, spring, two-piece, and adjustable types, but excluding inserted chaser types and dies sold in threading sets or screw plates	10	17.4	8.7
35451 75	Chasers, single edge thread cutting, circular blade and tangent types for mounting into or onto holders, die heads, and tap bodies, excluding all die heads, tap bodies, and chaser holders	7	21.6	17.4
	Thread rolling dies, including circular, flat, and planetary:			
35451 74	Titanium carbide and titanium carbide coated	-	21.3	14.7
35451 79	Other	8		
35451 89	Other threading tools, including screw plates and threading sets	7	6.3	2.1
	Blanks, tips, and inserts:[12]			
35451 81	Molded blanks and tips, including carbide, cast alloy, and ceramic, but excluding pressed-to-size inserts	23	71.0	24.9
	Inserts, indexible, and throwaway types:			
	Carbide:			
35451 82	Utility ground	15	45.9	15.0
35451 83	Precision ground	31	130.5	56.7
35451 84	Pressed to size, including inserts with center holes and with molded chip breakers	11	52.9	34.1
35451 85	Other than carbide	3	4.5	4.3
	Inserts, other than indexible and throwaway type:			
35451 86	Carbide	15	38.4	27.1
35451 88	Other than carbide	5		6.1
	Other types of cutting tools for machine tools, n.e.c., including rotary burrs, rotary files, and spade drills:			
35451 92	Carbon steel	15	17.1	2.2
35451 94	High speed steel	36	35.3	13.3
35451 98	Carbide, solid and tipped, excluding tips and blanks sold separately	36	42.4	19.0
35451 00	Small cutting tools for machine tools and metalworking machinery, n.s.k.	(NA)	103.8	31.7
35452 --	Precision measuring tools	(NA)	208.2	94.7
	Inspection, quality control, tool room, and machinists' precision tools:			
35452 11	Comparators, excluding optical	8	13.4	6.2
	Fixed size limit gauges (American Gauge Design type C58-61):			
35452 13	Fixture type	11	9.1	7.0
35452 15	Thread type	14	8.9	4.3
35452 17	Adjustable size limit gauges	6	7.1	5.8
35452 21	Gauge blocks	4	2.3	2.1
35452 61	Dial indicators	6	18.6	11.7
35452 65	Micrometers and calipers	7	17.5	9.0
35452 71	Pneumatic and electronic gauges (manual and automatic)	6	14.8	13.3
35452 91	Coordinate and contour measuring machines	6	28.0	
35452 92	Gear-checking instruments and machines	4	3.8	28.0
35452 93	Metal surface texture measuring machines	-		
35452 98	Other machinists' precision tools, including dividers	24	58.3	
35452 00	Precision measuring tools, n.s.k.	(NA)	26.5	7.3
35453 --	Other attachments and accessories for machine tools and metalworking machinery	(NA)	430.9	218.8
	Tool holders:			
35453 12	Turning tool holders (mechanically clamping for inserts and bits), except box tools and screw machine tool holders	28	47.9	23.6
35453 14	Boring bars and heads	17	29.7	7.0
35453 17	Drilling, reaming, and tapping chucks	6	22.9	([13])
35453 31	Special tooling and attachments for screw and automatic machines (box tools, tool holders, turrets, rollers, etc.), except standard cutting bits and tools	13	13.1	13.8
35453 37	Die heads and tap bodies for chaser type threading and thread-rolling heads, excluding hand type die stocks	4	4.7	
35453 38	Other tool holders, including other chucks, drill heads, tool posts, turrets, sleeves, sockets, etc	27	40.0	[13]25.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	MACHINE TOOL ACCESSORIES--Con.			
35453 --	Other attachments and accessories for machine tool and metalworking machinery--Con.			
	Work holding devices:			
35453 45	Rotary tables and indexing work holders	17	22.0	7.9
35453 59	Other work holding and positioning devices, including vises, mandrels, feeding fingers and collets, clamps, stops, face plates, spacers, etc.	62	100.6	43.9
35453 41	Tracer and tapering attachments, safety devices, centers, dogs, work rests, chutes, etc., excluding cutting tools, tool and work holders, jigs, fixtures, dies, and molds	10	10.3	[14]
35453 43	Lathe chucks	4	([15])	15.9
35453 51	Tool room specialties, including levels, angle plates, parallels, sine bars, V-blocks, flats, etc.	4	1.2	2.8
35453 98	Other attachments and accessories for machine tools and metalworking machinery	52	[15]101.0	[14]62.4
35453 00	Other attachments and accessories for machine tools and metalworking machinery, n.s.k.	(NA)	37.5	16.3
35450 00	Machine tool accessories, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	161.6	68.8
35450 02	Machine tool accessories, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	61.9	31.1

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	POWER DRIVEN HAND TOOLS						
3546- --	Total		(X)	(X)	1,496.5	(X)	[16] [17]725.0
35461 --	Power driven hand tools, electric, including battery powered		(X)	(X)	748.7	(X)	386.9
	Portable poweredriven hand tools controlled by hand; positioning in operation need not be fixed, high cycle:						
	Drills:						
	Armature mounted primarily on sleeve bearings:						
35461 01	1/4-inch chuck size and under	Thousands	5	1,263.1	16.4	1,724.3	12.5
35461 03	5/16-inch to under 1/2-inch		4	2,694.3	41.6	2,422.2	29.1
35461 04	1/2-inch and over		5	389.7	8.5	426.4	6.7
	Armature mounted primarily on other than sleeve bearings:						
35461 05	1/4-inch chuck size and under		7	126.8	7.8	335.6	6.1
35461 07	5/16-inch to under 1/2-inch		8	1,252.9	36.7	1,003.7	16.5
35461 09	1/2-inch and over		10	*506.5	35.1	545.7	16.6
	Saws, circular:						
35461 12	Armature mounted primarily on sleeve bearings		6	*1,673.0	36.8	(S)	26.1
	Armature mounted primarily on other than sleeve bearings:						
35461 15	7-inch blade and under		6	411.4	13.1	1,556.2	37.6
35461 16	Over 7-inch to under 8-inch blade		8	1,391.3	49.8		
35461 17	8-inch blade and over		4	**136.9	7.7	92.1	7.0
	Saws, jig, saber, and reciprocating:						
35461 18	Armature mounted on ball bearings		7	451.5	20.2	496.9	14.0
35461 19	Armature mounted on other than ball bearings		5	3,166.8	40.0	2,753.1	35.0
35461 22	Screwdrivers and nut-runners		4	101.0	7.5	362.7	13.8
35461 21	Hammers, percussion and rotary, without drill chuck		5	305.7	14.4	88.6	9.9
35461 23	Hammer drills, with a drill chuck		4	177.4	8.3		
35461 25	Impact wrenches		5	148.7	10.0	159.2	10.5
35461 27	Planers and routers		10	1,342.5	43.0	477.2	14.9
35461 28	Shears and nibblers		4	26.0	3.7	40.4	2.8
	Grinders, polishers, and circular sanders, except bench grinders:						
35461 26	Right-angle grinders, polishers, and circular sanders		9	*808.4	41.6	685.5	25.9
35461 29	All other grinders and polishers, including die grinders, except bench		8	459.1	17.4		
	Sanders, other than circular:						
35461 33	Belt		8	620.9	25.3	466.7	11.2
35461 34	Oscillating, reciprocating, and vibrating		9	1,832.9	30.3	386.8	8.0
35461 37	Chain saws		5	*366.1	12.3	[17]	[17]
35461 35	Other electric-powered hand tools	Thousands	14	*1,186.2	39.4	435.4	42.0
35461 36	Parts, attachments, and accessories for electric-powered hand tools (sold separately), excluding saw blades, drills, screwdrivers, etc.		22	(X)	172.7	(X)	40.7
35461 00	Power driven hand tools, electric, including battery-powered, n.s.k.		(X)	(X)	9.3	X	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	POWER DRIVEN HAND TOOLS--Con.						
35462 --	Power driven hand tools, pneumatic, powder-actuated, and hydraulic	.....	(X)	(X)	371.1	(X)	[16]217.9
	Pneumatic:						
35462 38	Drills, screwdrivers, and nut runners	Thousands	13	284.5	46.9	161.4	26.3
35462 37	Percussion tools (such as runners, chippers, scalers, and holder-ons)		17	(S)	46.1	(S)	11.2
35462 41	Impact wrenches		9	293.4	37.5	(S)	40.5
35462 43	Grinders, polishers, and sanders		14	395.7	36.3	(S)	21.0
35462 45	Chain saws		2	(S)	78.3	(17)	(17)
35462 49	Other pneumatic-powered hand tools	Thousands	17			(X)	46.2
35462 51	Parts, attachments, and accessories for pneumatic-powered hand tools (sold separately), excluding drills, screwdrivers, etc	.....	20	(X)	61.9	(S)	72.6
	Powder-actuated and hydraulic:						
35462 61	Powder-actuated hand tools	Thousands	1	(S)	5.6	(17)	(17)
	Hydraulic:						
35462 71	Chain saws		1			(16)	(16)
35462 72	Other hydraulic-powered hand tools	Thousands	4				
35462 79	Parts, attachments, and accessories for powder-actuated and hydraulic hand tools (sold separately), excluding saw blades, drills, etc	.....	11	(X)	53.2	(16)	(16)
35462 00	Power driven hand tools, pneumatic, powder-actuated, and hydraulic, n.s.k	.....	(X)	(X)	5.4	(X)	-
35463 --	Power driven hand tools, engine (internal combustion) driven	.....	(X)	(X)	347.1	(X)	[16] [17]102.1
35463 01	Chain saws	Thousands	7	(18)	(18)	[17]1,199.3	[17]102.1
35463 02	Cut off saws		-	-	-		
35463 07	Drills		1				
35463 09	Other	Thousands	2				
35463 19	Parts, attachments, and accessories for engine driven hand tools, excluding saw blades, drills, engines, and engine parts, etc	.....	5	(X)	[18]347.1	(16)	(16)
35463 00	Power driven hand tools, engine (internal combustion) driven, n.s.k	.....	(X)	(X)	-		
35460 00	Power driven hand tools, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	22.4	(X)	18.1
35460 02	Power driven hand tools, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	7.2	(X)	-

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	ROLLING MILL MACHINERY			
3547- --	Total	(NA)	361.0	247.9
35471 --	Hot rolling mill machinery, except tube rolling	(NA)	147.0	134.7
35471 11	Blooming and slabbing mill machinery	4	18.5	(19)
35471 13	Plate rolling mill machinery, except tin plate machinery	4	38.6	13.1
35471 17	Hot strip mill	4	35.9	[19]121.6
35471 18	Other hot rolling mill machinery and equipment	10	53.5	
35471 00	Hot rolling mill machinery, except tube rolling, n.s.k	(NA)	0.5	-
35472 --	Cold rolling mill machinery	(NA)	74.9	52.4
35472 21	Tandem roll mills	3	20.0	16.6
35472 23	Single stand roll mills	4	5.8	
35472 27	Double stand roll mills	-	44.7	35.8
35472 28	Other cold rolling mill machinery and equipment	11		
35472 00	Cold rolling mill machinery, n.s.k	(NA)	4.4	-
35473 --	Other rolling mill machinery, including tube mill machinery	(NA)	120.8	55.6
35473 35	Tube mill machinery	13	45.0	15.5
35473 47	Processing lines, including pickling and cleaning, tinning, galvanizing, etc	5	14.7	40.1
35473 56	Other rolling mill machinery and equipment	13	56.0	
35473 00	Other rolling mill machinery, including tube mill machinery, n.s.k	(NA)	5.1	-
35470 00	Rolling mill machinery, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	9.0	5.2
35470 02	Rolling mill machinery, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	9.3	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	METALWORKING MACHINERY, N.E.C.						
3549- --	Total	.....	(NA)	(X)	908.9	(X)	411.3
35492 --	Assembly machines	.....	(NA)	(X)	128.4	(X)	[20]53.8
35492 11	Rotary transfer (dial or rotary, trunnion, center column)	Number	16	(S)	31.9		
35492 15	In-line transfer, synchronous		11	76	23.1		
35492 17	In-line transfer, non-synchronous	Number	8	*67	25.7	(X)	53.8
35492 19	Special purpose and other types	.....	30	(X)	42.3		
35492 00	Assembly machines, n.s.k.	.....	(NA)	(X)	5.4	(X)	[20]
35493 --	Welding and cutting apparatus, except electric	.....	(NA)	(X)	213.7	(X)	93.7
	Gas welding and cutting equipment, including parts, attachments, and accessories:						
35493 01	Torches, including welding torches and gas air torches	Thousands	17	(S)	36.0		
35493 05	Cutting machines and carriages, stationary and portable	Thousands	9	(S)	28.8		
35493 09	Other gas welding and cutting equipment, excluding pressure containers	.....	11	(X)	57.0	(X)	[21]
	Spare parts, accessories, attachments, adaptors, etc., n.e.c., sold separately:						
35493 15	Tips	.....	17	(X)	27.0		
35493 17	Regulators, gas pressure	Thousands	13	**835.7	28.7	(X)	[22]
35493 19	All others	.....	19	(X)	30.0		
35493 79	Other nonelectric welding and cutting equipment, except gas, excluding pressure containers	.....	-	(X)	-	(X)	[21]74.2
35493 81	Spare parts, accessories, attachments, adaptors, etc., n.e.c., except for gas welding and cutting equipment, sold separately	.....	-	(X)	-	(X)	[22]16.3
35493 00	Welding and cutting apparatus, except electric, n.s.k.	.....	(NA)	(X)	6.3	(X)	3.2
35494 --	Automotive maintenance equipment:						
35494 11	Automotive maintenance equipment (such as motor analyzers, wheel balancers, sparkplug cleaners, wheel spinners, frame straighteners, etc.)	.....	47	(X)	188.0	(X)	111.1
35495 --	Other metalworking machinery	.....	(NA)	(X)	294.9	(X)	[20]100.7
35495 10	Machines for weaving and other wire fabricating and wire-drawing machines and draw benches	.....	21	(X)	53.2	(X)	19.0
	Coil-handling equipment (conversion or straightening):						
35495 43	Cut-to-length lines	.....	17	(X)	48.9	(X)	27.8
35495 45	Slitting lines	.....	12	(X)	18.2		
35495 55	Soldering equipment, except hand	Thousands	4	(X)	132.6	(X)	49.5
35495 98	Other metalworking machinery	.....	57				
35495 00	Other metalworking machinery, n.s.k.	.....	(NA)	(X)	42.0	(X)	[20]4.4
35490 00	Metalworking machinery, n.e.c., n.s.k., typically for companies with 5 employees or more (see note)	.....	(NA)	(X)	71.4	(X)	36.9
35490 02	Metalworking machinery, n.e.c., n.s.k., typically for companies with less than 5 employees (see note)	.....	(NA)	(X)	12.6	(X)	15.1

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972, product code 35412 52 includes rail or saddle type multiple-spindle drilling machines.

[4]For 1977, product code 35413 12 was included with product code 35413 31 to avoid disclosing operations of individual companies.

[5]For 1977, product code 35413 71 was included with product code 35413 54 to avoid disclosing operations of individual companies.

[6]For 1972, data for thread grinding machines was included with product code 35414 45.

[7]Product classes 35417 and 35418 are shown separately here, but report forms used to collect data coded all products as 35418 products.

[8]For 1977, product code 35418 51 was included with product code 35418 91 to avoid disclosing operations of individual companies.

[9]For 1972, data for pneumatic presses were included with product class 35422 as reported in Current Industrial Reports MQ-35W, Metalworking Machinery, at an undisclosed amount.

[10]For 1972, product code 35422 57 was included with product code 35422 77 to avoid disclosing operations of individual companies.

[11]Single point tools are one-piece single point of multiple point tool bits with integral cutting edges or with cutting tips brazed or bonded to holder or shank; with square, rectangular, round, and other cross-section shanks; and with single and double end, including flat form and dovetail tools used for turning, planing, boring, shaping, shaving, forming, threading, cutting off, etc.; excluding circular form tools, and all mechanical holding devices and replaceable inserts.

Footnotes continued on next page.

[12]Blanks are cast or formed material, unground, and requiring further processing to make a solid tool or cutting tip. (Does not include components pressed to size, as molded ready-to-use inserts.) Tips are a finished or a semifinished form of blank to be brazed, soldered, or otherwise bonded to a shank to form a cutting tool. Inserts are replaceable, mechanically-held cutting-edge components of cutting tools, either pressed to size, or ground on all surfaces (precision ground), or ground on top and bottom only (utility ground).

[13]For 1972, product code 35453 17 was included with product code 35453 38.

[14]For 1972, product codes 35453 41 and 35453 98 were combined to avoid disclosing operations of individual companies.

[15]For 1977, product codes 35453 43 and 35453 98 were combined to avoid disclosing operations of individual companies.

[16]For 1972, hydraulic and internal combustion engine driven hand tools and parts (excluding chain saws and parts) were classified in industry 3546, but not collected separately.

[17]For 1972, chain saws were classified in industry 3553 as product code 35531 67.

[18]For 1977, data for product code 35463 01 are combined with product codes 35463 07, 35463 09, and 35463 19 to avoid disclosing operations of individual companies.

[19]For 1972, product code 35471 11 was combined with product codes 35471 17 and 35471 18 to avoid disclosing operations of individual companies.

[20] For 1972, data for product code 35492 00 are included with product code 35495 00.

[21]For 1972, data for product codes 35493 01, 35493 05, 35493 00, and 35493 15 are included with product code 35493 79.

[22]For 1972, data for product codes 35493 17 and 35493 19 are included with product code 35493 81.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35411, BORING MACHINES, METAL CUTTING		
United States	93.5	58.7
New England Division:		
Connecticut	3.4	AA
East North Central Division:		
Ohio	26.4	11.9
Illinois	3.2	AA
Michigan	36.9	22.3
35412, DRILLING MACHINES, METAL CUTTING		
United States	108.9	73.7
Middle Atlantic Division:		
Pennsylvania	2.9	(NA)
East North Central Division:		
Ohio	12.0	11.2
Illinois	7.5	CC
Michigan	15.7	11.9
Wisconsin	4.5	9.8
Pacific Division:		
California	38.0	15.0
35413, GEAR CUTTING AND FINISHING MACHINES		
United States	67.1	56.7
East North Central Division:		
Michigan	10.0	CC
35414, GRINDING, HONING, LAPPING, AND POLISHING MACHINES		
United States	288.3	168.6
New England Division:		
Vermont	22.0	12.1
Connecticut	18.4	CC
Middle Atlantic Division:		
New York	16.5	8.1
East North Central Division:		
Ohio	42.1	26.6
Indiana	2.2	1.8
Illinois	41.1	12.9
Michigan	28.6	19.6
Wisconsin	3.2	3.2
West North Central Division:		
Minnesota	10.6	4.7
35415, LATHES, METALWORKING		
United States	455.9	197.6
New England Division:		
Connecticut	68.9	FF
Middle Atlantic Division:		
New York	39.4	16.4
East North Central Division:		
Ohio	226.8	90.9
Illinois	17.9	5.6
Michigan	25.3	15.9
35416, MILLING MACHINES, METALWORKING		
United States	167.8	86.6
New England Division:		
Massachusetts	2.5	BB
East North Central Division:		
Illinois	19.3	8.0
Michigan	8.0	CC
35417, METAL CUTTING MACHINE TOOLS		
United States	647.3	[1]303.1
New England Division:		
Connecticut	11.4	BB
East North Central Division:		
Ohio	57.9	36.8
Illinois	109.8	64.5
Michigan	296.4	118.5
35418, METALWORKING MACHINE TOOLS FOR WORKSHOPS		
United States	66.3	[1]
East North Central Division:		
Illinois	2.4	[1]
Michigan	10.6	[1]
Wisconsin	2.8	[1]
35419, PARTS FOR METAL CUTTING TYPE MACHINE TOOLS		
United States	502.1	242.1
New England Division:		
Vermont	29.3	10.3
Massachusetts	9.7	8.5
Rhode Island	13.1	CC
Connecticut	46.2	13.4
Middle Atlantic Division:		
New York	23.6	EE
Pennsylvania	16.0	CC
East North Central Division:		
Ohio	148.1	67.5
Indiana	6.8	4.8
Illinois	49.6	33.2
Michigan	66.2	38.5
Wisconsin	48.5	EE
East South Central Division:		
Tennessee	2.0	NA
Pacific Division:		
California	6.2	BB
35421, PUNCHING, SHEARING, BENDING, AND FORMING MACHINES		
United States	280.1	153.4
New England Division:		
Connecticut	8.1	CC
East North Central Division:		
Ohio	54.3	36.8
Illinois	76.3	39.7
Michigan	12.8	7.8
West North Central Division:		
Missouri	3.3	AA
Pacific Division:		
California	12.3	BB
35422, METALWORKING PRESSES		
United States	282.6	183.2
Middle Atlantic Division:		
New York	30.2	15.8
New Jersey	2.5	2.0
East North Central Division:		
Ohio	81.0	43.9
Indiana	15.7	7.5
Illinois	85.7	61.4
Michigan	26.0	18.9
Pacific Division:		
California	8.9	BB

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35423, METAL FORMING MACHINE TOOLS, N.E.C.		
United States	171.7	149.0
New England Division:		
Connecticut	12.8	14.9
Middle Atlantic Division:		
Pennsylvania	5.5	4.0
East North Central Division:		
Ohio	58.8	38.1
Indiana	6.2	2.3
Illinois	3.2	13.0
Michigan	32.5	26.7
Pacific Division:		
California	20.3	EE
35424, METAL FORMING MACHINE TOOL PARTS		
United States	295.5	161.5
New England Division:		
Massachusetts	4.9	(NA)
Connecticut	26.5	CC
Middle Atlantic Division:		
New York	26.3	18.0
Pennsylvania	18.6	EE
East North Central Division:		
Ohio	59.5	30.7
Indiana	2.5	2.0
Illinois	59.8	41.0
Michigan	48.8	22.0
West North Central Division:		
Missouri	2.4	(NA)
Pacific Division:		
California	15.5	CC
35441, SPECIAL DIES, TOOLS, DIE SETS, JIGS, FIXTURES		
United States	2,578.0	1,520.1
New England Division:		
Maine	2.4	1.7
New Hampshire	2.5	1.5
Massachusetts	38.5	25.9
Rhode Island	11.7	7.5
Connecticut	45.0	37.6
Middle Atlantic Division:		
New York	104.3	78.2
New Jersey	80.1	31.6
Pennsylvania	192.8	91.2
East North Central Division:		
Ohio	408.5	245.6
Indiana	137.4	85.3
Illinois	164.5	107.4
Michigan	1,022.6	593.3
Wisconsin	79.5	49.0
West North Central Division:		
Minnesota	17.2	10.4
Iowa	17.1	7.7
Missouri	37.1	20.3
Kansas	2.7	2.7
South Atlantic Division:		
Maryland	6.1	2.1
North Carolina	7.4	3.8
South Carolina	4.1	AA
Georgia	6.6	4.4
Florida	22.1	8.5
East South Central Division:		
Kentucky	9.0	5.1
Tennessee	19.4	12.3
Alabama	7.4	3.3
West South Central Division:		
Texas	13.2	5.4
Mountain Division:		
Colorado	6.3	2.7
Pacific Division:		
California	95.7	63.9
35442, INDUSTRIAL MOLDS INCLUDING MOLD BASES		
United States	1,040.0	640.3
New England Division:		
New Hampshire	2.2	AA
Massachusetts	52.5	32.4
Rhode Island	5.0	2.4
Connecticut	22.9	15.4
Middle Atlantic Division:		
New York	50.5	28.4
New Jersey	65.1	38.2
Pennsylvania	79.4	56.0
East North Central Division:		
Ohio	178.0	117.9
Indiana	59.5	34.3
Illinois	131.4	87.5
Michigan	176.9	92.4
Wisconsin	29.8	15.1
West North Central Division:		
Minnesota	25.6	14.5
Missouri	20.3	8.3
South Atlantic Division:		
Virginia	2.7	(NA)
North Carolina	7.7	12.3
South Carolina	4.0	BB
Georgia	3.7	6.2
Florida	11.2	5.7
East South Central Division:		
Kentucky	4.9	AA
Tennessee	4.5	2.2
Alabama	3.4	2.2
West South Central Division:		
Texas	7.1	2.1
Mountain Division:		
Colorado	3.4	1.5
Arizona	2.1	(NA)
Pacific Division:		
Oregon	3.1	1.9
California	67.7	43.8
35451, SMALL CUTTING TOOLS FOR MACHINE TOOLS		
United States	1,376.4	738.0
New England Division:		
Vermont	37.5	15.5
Massachusetts	129.2	96.7
Rhode Island	16.2	7.7
Connecticut	43.7	26.4
Middle Atlantic Division:		
New York	60.4	29.1
New Jersey	39.4	10.0
Pennsylvania	133.4	69.2
East North Central Division:		
Ohio	171.9	92.2
Indiana	12.6	5.1
Illinois	143.7	83.7
Michigan	397.2	225.1
Wisconsin	26.3	7.7
West North Central Division:		
Iowa	3.5	(NA)
Missouri	2.5	2.0
South Atlantic Division:		
South Carolina	21.3	CC
East South Central Division:		
Tennessee	9.0	BB
West South Central Division:		
Texas	6.4	BB
Pacific Division:		
California	37.4	EE

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35452, PRECISION MEASURING TOOLS		
United States	208.2	94.7
New England Division:		
Massachusetts	31.6	FF
Rhode Island	32.6	14.0
Conneceticut	7.1	BB
Middle Atlantic Division:		
New York	15.3	BB
East North Central Division:		
Ohio	46.1	20.8
Indiana	3.8	AA
Illinois	5.8	4.9
Michigan	24.7	11.6
Pacific Division:		
California	11.3	BB
35453, OTHER MACHINE TOOLS ATTACHMENTS AND ACCESSORIES		
United States	430.9	218.8
New England Division:		
Massachusetts	8.8	CC
Rhode Island	2.6	BB
Connecticut	55.6	35.3
Middle Atlantic Division:		
New York	27.0	18.1
New Jersey	4.6	3.2
Pennsylvania	27.1	2.3
East North Central Division:		
Ohio	61.2	32.3
Indiana	14.0	11.2
Illinois	42.2	FF
Michigan	101.0	41.2
Wisconsin	12.7	10.4
West South Central Division:		
Arkansas	4.0	AA
Pacific Division:		
California	9.8	3.8
35461, ELECTRIC HAND TOOLS[2]		
United States	748.7	386.9
East North Central Division:		
Ohio	28.0	16.6
Illinois	100.6	86.6
35462, PNEUMATIC, HYDRAULIC, AND POWDER ACTUATED HAND TOOLS		
United States[2]	371.1	[3]217.9
East North Central Division:		
Ohio	80.4	46.1
Illinois	44.8	25.5
Pacific Division:		
California	14.9	CC
35471, HOT ROLLING MILL MACHINERY, EXCEPT TUBE ROLLING		
United States	147.0	134.7
Middle Atlantic Division:		
Pennsylvania	66.0	FF
35472, COLD ROLLING MILL MACHINERY		
United States	74.9	52.4
East North Central Division:		
Ohio	29.4	EE
35473, OTHER ROLLING MILL MACHINERY		
United States	120.8	55.6
Middle Atlantic Division:		
Pennsylvania	49.0	FF
East North Central Division:		
Ohio	36.2	9.5
35492, ASSEMBLY MACHINES		
United States	128.4	([4])
East North Central Division:		
Ohio	10.5	([4])
Indiana	10.5	([4])
Illinois	4.0	([4])
Michigan	43.0	([4])
35493, WELDING AND CUTTING APPARATUS, EXCEPT ELECTRIC		
United States	213.7	93.7
Middle Atlantic Division:		
Pennsylvania	12.7	6.7
East North Central Division:		
Michigan	5.6	BB
Pacific Division:		
California	5.3	BB
35494, AUTOMOTIVE MAINTENANCE EQUIPMENT		
United States	188.0	111.1
East North Central Division:		
Ohio	4.2	8.3
Illinois	42.2	15.7
West North Central Division:		
Iowa	25.5	10.3
Pacific Division:		
California	6.8	BB
35495, OTHER METALWORKING MACHINERY		
United States	294.9	[4]154.5
New England Division:		
Massachusetts	13.2	8.3
Connecticut	8.9	CC
Middle Atlantic Division:		
New York	36.3	25.3
New Jersey	17.3	4.1
Pennsylvania	16.4	7.3
East North Central Division:		
Ohio	47.4	18.9
Indiana	6.9	6.6
Illinois	36.5	17.3
Michigan	38.6	23.5
Wisconsin	11.8	14.0
West North Central Division:		
Missouri	5.6	(NA)
South Atlantic Division:		
North Carolina	5.7	(NA)
Pacific Division:		
California	15.3	CC

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(NA) Not available. N.E.C. Not elsewhere classified.

[1]For 1972, data for product classes 35417 and 35418 were combined.

[2]For 1972, chain saws and parts were classified in Industry 3553, Woodworking Machinery. For 1977, chain saws and parts were classified in Industry 3546, Power Hand Tools.

[3]For 1972, hydraulic hand tools and parts (excluding chain saws and parts) were classified in industry 3546, but not collected separately.

[4]For 1972, data for product class 35492 were combined with product class 35495.

Table 6c. **Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3541-	Machine tools, metal cutting types	2,560.5	2,146.4	2,405.7	2,136.1	1,718.6	1,258.5	1,907.8	925.3
35411	Boring machines, metal cutting	93.5	80.2	90.6	85.3	71.8	58.7	127.8	66.3
35412	Drilling machines, metal cutting	108.9	(99.0)	97.9	81.1	100.5	73.7	128.5	55.3
35413	Gear cutting and finishing machines	67.1	61.9	71.7	70.2	62.3	56.7	67.1	40.9
35414	Grinding, honing, lapping, and polishing machines	288.3	243.5	276.2	269.8	237.2	168.6	270.2	144.2
35415	Lathes, metalworking	455.9	449.8	474.0	396.1	292.4	197.6	360.5	163.4
35416	Milling machines, metalworking	167.8	146.8	141.9	143.3	112.1	86.6	258.2	112.7
35417	Other metal cutting machine tools	647.3	629.8	802.3	631.1	460.4	303.1	371.9	152.4
35418	Metalworking machine tools for workshops	66.3							
35419	Parts for metal cutting type machine tools	502.1	400.7	382.8	396.5	308.5	242.1	241.0	165.5
35410	Machine tools, metal cutting types, n.s.k.	163.3	(34.7)	(68.4)	(62.7)	73.4	71.4	82.5	24.4
3542-	Machine tools, metal forming types	1,114.7	1,050.9	1,026.1	1,053.3	877.0	670.1	676.6	444.8
35421	Punching, shearing, bending, and forming machines	280.1	271.3	242.3	211.4	185.2	153.4	130.9	92.5
35422	Metalworking presses	282.6	268.1	282.8	327.2	258.5	183.2	261.3	141.7
35423	Metal forming machine tools, n.e.c.	171.7	157.0	162.3	192.4	197.8	149.0	122.9	71.7
35424	Metal forming machine tool parts	295.5	344.3	322.8	304.0	212.7	161.5	125.7	118.2
35420	Machine tools, metal forming types, n.s.k.	85.0	(10.2)	(15.9)	(18.3)	22.8	23.0	35.6	20.7
3544-	Special dies, tools, jigs, and fixtures	4,450.2	3,620.3	3,067.7	3,548.8	3,169.4	2,713.5	2,520.2	1,608.1
35441	Special dies, tools, die sets, jigs, and fixtures	2,578.0	2,471.8	1,991.2	2,343.1	1,919.4	1,520.1	[2]1,719.8	1,161.2
35442	Industrial molds (including mold bases)	1,040.0	912.3	817.2	860.0	756.2	640.3	[2]446.2	311.1
35440	Special dies, tools, jigs, and fixtures, n.s.k.	832.2	(236.2)	(259.3)	(345.7)	493.8	553.1	354.2	135.9
3545-	Machine tool accessories	2,238.9	1,851.9	1,750.9	1,727.3	1,485.0	1,151.4	1,222.4	731.7
35451	Small cutting tools for machine tools	1,376.4	1,277.4	1,184.5	1,129.4	928.4	738.0	770.9	464.4
35452	Precision measuring tools	208.2	188.5	178.9	179.9	161.3	94.7	130.8	88.0
35453	Other machine tools attachments and accessories	430.9	332.1	327.6	326.9	300.3	218.8	239.5	152.6
35450	Machine tool accessories, n.s.k.	223.5	(53.9)	(59.9)	(91.1)	95.0	99.9	81.2	26.7
3546-	Power driven hand tools[3]	1,496.5	877.6	771.9	849.1	801.2	725.0	(NA)	(NA)
35461	Electric hand tools	748.7	569.6	493.9	570.4	514.0	386.9		
35462	Pneumatic, hydraulic, and powder actuated hand tools[4]	371.1	297.7	267.5	263.8	273.8	320.0	436.0	319.9
35463	Internal combustion engine driven hand tools[4]	347.1							
35460	Power driven hand tools, n.s.k.	29.6	(10.3)	(10.6)	(14.9)	13.4	18.1	([5])	([5])
3547-	Rolling mill machinery	361.0	469.6	433.2	320.7	266.5	247.9	(NA)	(NA)
35471	Hot rolling mill machinery, except tube rolling	147.0	181.4	175.2	145.2	137.3	134.7		
35472	Cold rolling mill machinery	74.9	177.9	158.6	103.6	60.9	52.4	330.3	222.2
35473	Other rolling mill machinery	120.8	(109.0)	(98.2)	65.9	65.0	55.6		
35470	Rolling mill machinery, n.s.k.	18.3	1.2	1.2	6.0	3.3	5.2	([5])	([5])
3549-	Metalworking machinery, n.e.c.	908.9	540.9	517.2	531.1	490.0	411.3	(NA)	(NA)
35492	Assembly machines	128.4	([6])	([6])	([6])	([6])	([6])	([6])	([6])
35493	Welding and cutting apparatus, except electric	213.7	137.6	132.1	137.3	108.6	93.7	69.6	54.7
35494	Automotive maintenance equipment	188.0	144.0	126.0	138.7	134.9	111.1	58.1	47.7
35495	Other metalworking machinery	294.9	[6]240.0	[6]239.3	[6]215.0	[6]186.1	[6]154.5	[6]86.2	[6]36.6
35490	Metalworking machinery, n.e.c., n.s.k.	84.0	(19.4)	(19.9)	(40.1)	60.4	52.0	[5]47.8	[5]20.9

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]For 1967 and later years, diecasting dies (molds) were included in product class 35442. Prior to 1967, these molds were included in product class 35441.

[3]For 1977, chain saws and parts were classified in industry 3546. Prior to 1977, chain saws and parts were classified in industry 3553.

[4]Prior to 1977, hydraulic and internal combustion engine driven hand tools and parts (excluding chain saws and parts) were classified in industry 3546, but not collected separately.

[5]Prior to 1972, product class 35490 included product classes 35460 and 35470.

[6]Prior to 1977, data for product class 35492 were combined with product class 35495.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3541, MACHINE TOOLS, METAL CUTTING TYPES					
	Materials, parts, containers, and supplies	.....	(X)	904.4	(X)	454.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons.	(S)	25.9	40.0	15.2
331012	Sheet and strip		(S)	5.5	13.7	3.2
331013	Plates		(S)	18.0	32.2	8.2
331015	Structural shapes		(S)	4.2	(S)	2.2
331017	Wire and wire products		(S)	9.5	(S)	.2
331019	All other carbon steel mill shapes and forms				(S)	5.4
	Alloy steel, except stainless:					
331021	Bars and bar shapes		**20.0	20.5	22.6	13.1
331029	All other alloy steel mill shapes and forms		(S)	2.7	1.9	2.4
	Stainless steel:					
331033	Sheet and strip		(S)	.8	.2	.3
331050	All other stainless steel mill shapes and forms	1,000 s. tons.	(S)	2.2	.7	2.9
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb....	**.2	.1	.1	.1
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content).	*3.6	3.7	(S)	1.9
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb....	(S)	1.1	.5	.8
335143	Plate, sheet, and strip, including military cups and discs		(S)	.6	(S)	.2
335152	Pipe and tube				(S)	.5
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.8	.8	.5
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	.5	.6	.6
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		(S)	.4	(S)	.3
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	Million lb....	(2)	(2)	(3)	(3)
329903	Industrial diamonds	Carats.....	(S)	1.4	(S)	.5
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....	(X)	5.6	(X)	4 7.0
339915	Metal powders	Million lb....	(S)	.2	-	-
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons.	6.5	1.1	20.1	.9
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**77.9	84.5	69.9	43.6
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	8.7	(S)	4.4
	Produced and consumed	1,000 s. tons.	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb....	(S)	6.0	(S)	4.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		**1.7	2.5	1.1	1.2
	Produced and consumed	Million lb....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons.	*5.9	8.7	4.7	4.3
	Produced and consumed	1,000 s. tons.	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	**1.9	1.1	(S)	.9
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors:					
	Purchased		(S)	5.9	96.3	3.4
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	26.3	(S)	16.3
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	11.8	(X)	9.6
356201	Roller	.....	(X)	6.8	(X)	3.6
356601	Speed changers, drives, and gears	.....	(X)	14.7	(3)	(3)
356011	Hydraulic and pneumatic equipment, including pumps and compressors	.....	(X)	23.4	(X)	4 26.0
360101	Electric transmission, distribution, and control equipment	.....	(X)	33.4	(3)	(3)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	10.0	(X)	4 9.0
354501	Cutting tools for machine tools	.....	(X)	16.6	(X)	4 19.0
362201	Numerical controls for metal working machinery	.....	(X)	60.9	(X)	3 165.5
970099	All other materials and components, parts, containers, and supplies	.....	(X)	2 312.4		
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	165.9	(X)	77.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3542, MACHINE TOOLS, METAL FORMING TYPES					
	Materials, parts, containers, and supplies	.....	(X)	395.7	(X)	253.4
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**24.5	14.2	32.1	12.5
331012	Sheet and strip		**13.9	6.4	6.3	1.2
331013	Plates		*74.4	26.1	91.3	17.8
331015	Structural shapes		(S)	3.8	9.4	2.0
331017	Wire and wire products		*.6	1.0	(S)	.1
331019	All other carbon steel mill shapes and forms		(S)	6.8	(S)	3.1
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	6.5	7.0	5.2
331029	All other alloy steel mill shapes and forms		12.0	5.6	2.6	1.8
	Stainless steel:					
331033	Sheet and strip		**.1	.2	.1	.2
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	.5	.4	.4
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb.....	(S)	.9	(D)	(D)
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content).			(S)	.3
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	*.8	1.2	.2	.4
335143	Plate, sheet, and strip, including military cups and discs		(Z)	(Z)	.1	.2
335152	Pipe and tube		(S)	.3	(S)	.2
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**1.1	2.5	(S)	.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc				(S)	.3
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		(S)	.2	(S)	.2
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	Million lb.....			(X)	[4]1.0
329903	Industrial diamonds	Carats.....	(Z)	(Z)	(S)	(Z)
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....	(X)	1.4	(X)	[4]3.0
339915	Metal powders	Million lb.....	(Z)	(Z)	-	-
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons..	(S)	.7	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(S)	29.4	36.5	18.1
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*12.4	18.8	11.1	8.9
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	*2.6	2.9	.7	.8
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	1.5	2.6	2.9
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	**8.2	11.3	7.5	6.1
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	1.9	1.0	.9	.1
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors:					
	Purchased		(S)	1.7	(S)	.5
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	12.6	(S)	6.6
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	3.8	(X)	.9
356201	Roller	.....	(X)	3.8	(X)	2.8
356601	Speed changers, drives, and gears	.....	(X)	6.3	[3]	[6]
356011	Hydraulic and pneumatic equipment, including pumps and compressors	.....	(X)	13.6	(X)	[4]8.0
360101	Electric transmission, distribution, and control equipment	.....	(X)	12.3	[3]	[6]
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	5.5	(X)	[4]3.0
354501	Cutting tools for machine tools	.....	(X)	5.0	(X)	[4]4.0
362201	Numerical controls for metalworking machinery	.....	(X)	5.0	[3]	[6]
970099	All other materials and components, parts, containers, and supplies	.....	(X)	102.6	(X)	[6]95.2
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	80.3	(X)	44.8

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3544, SPECIAL DIES, TOOLS, JIGS, AND FIXTURES					
	Materials, parts, containers, and supplies	.....	(X)	907.3	(X)	501.4
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	41.9	57.5	31.1
331012	Sheet and strip		(S)	16.2	54.1	14.7
331013	Plates		**81.6	36.0	65.9	23.6
331015	Structural shapes		(S)	2.9	(S)	3.2
331017	Wire and wire products		**.4	.8	(S)	1.8
331019	All other carbon steel mill shapes and forms		(S)	5.9	8.9	6.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	47.6	(S)	31.0
331029	All other alloy steel mill shapes and forms		(S)	21.4	18.0	13.5
	Stainless steel:					
331033	Sheet and strip		(S)	4.1	1.1	1.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	3.2	1.9	3.4
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content)	(S)	.1	.2	.1
335793	Aluminum	Mil. lb. (aluminum content)	(S)	.1	(7)	(7)
335770	Magnet wire	Million lb.....			(7)	(7)
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction		.1	.1	.2	.4
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	1.4	.8	.8
335143	Plate, sheet, and strip, including military cups and discs		(S)	4.7	2.7	3.1
335152	Pipe and tube		(S)	.2	(S)	.9
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	5.5	(S)	2.7
335405	Extruded shapes, including rod, bar, pipe, tube, etc.		(S)	2.2	(S)	1.5
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	2.2	(S)	1.5
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	.....	(X)	2.6	(7)	(7)
329903	Industrial diamonds	Carats.....	(S)	2.8	137.2	2.3
339915	Metal powders	Million lb.....	*1.1	9.8	.5	2.4
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons..	(S)	.2	(S)	.2
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**48.0	37.4	37.2	20.0
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	7.0	5.2	4.9
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	7.9	2.7	5.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		.3	1.0	.9	2.1
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	**1.9	3.8	1.8	2.5
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(S)	.3	(S)	.1
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors (under 1 hp):					
	Purchased		(S)	.4	5.4	.3
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	.6	(S)	.3
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	.6	(X)	2.5
356201	Roller	.....	(X)	.7		
356601	Speed changers, drives, and gears	.....	(X)	.7		
356011	Hydraulic and pneumatic equipment, including pumps and compressors	.....	(X)	3.2		
360101	Electric transmission, distribution, and control equipment	.....	(X)	1.9		
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....	(X)	7.2	(X)	[7]133.1
345001	Bolts, nuts, screws, fasteners, rivets, and screw machine products	.....	(X)	7.4		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	210.8		
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	404.5	(X)	184.3

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3545, MACHINE TOOL ACCESSORIES					
	Materials, parts, containers, and supplies	.....	(X)	673.1	(X)	304.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	29.2	(S)	12.0
331012	Sheet and strip		*2.8	2.3	(S)	1.1
331013	Plates		*2.8	1.9	3.1	1.1
331015	Structural shapes		(S)	0.9	(S)	.7
331017	Wire and wire products		*3.1	5.8	.8	.7
331019	All other carbon steel mill shapes and forms		(S)	9.2	(S)	2.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	73.5	15.1	34.5
331029	All other alloy steel mill shapes and forms		**6.5	15.1	1.8	5.5
	Stainless steel:					
331033	Sheet and strip		*.7	8.0	.3	.5
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	1.8			
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content)..	(S)	.2	(S)	.1
335793	Aluminum	Mil. lb. (aluminum content)				
335770	Magnet wire	Million lb.....				
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		-	-	(D)	(D)
355102	Rod, bar, and mechanical wire, including extruded wire and/or drawn shapes		(S)	.3	(S)	.4
335143	Plate, sheet, and strip, including military cups and discs		.1	.2	(S)	(Z)
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.6	.1	.1
335405	Extruded shapes, including rod, bar, pipe, tube, etc		.4	.9	.3	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	.1	(S)	.3
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	.....	(S)	7.1	(X)	([8])
329903	Industrial diamonds	Carats.....	(S)	11.7	1.8	9.3
339915	Metal powders	Million lb.....	11.0	134.2	11.8	68.0
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons..	(Z)	(Z)	-	-
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		10.2	8.9	4.7	3.0
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	1.6	(S)	2.9
	Produced and consumed:	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	.6	1.5	.6	.9
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	.4	(D)	(D)
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	(S)	2.2	2.9	2.5
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(Z)	(Z)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors:					
	Purchased		*14.6	1.0	(S)	.3
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		**3.4	1.1	(S)	.6
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	1.4	(X)	.8
356201	Roller	.....	(X)	1.7	(X)	.6
356601	Speed changers, drives, and gears	.....	(X)	.7	(X)	([8])
356011	Hydraulic and pneumatic equipment, including pumps and compressors	.....	(X)	1.3	(X)	([8])
360101	Electric transmission, distribution, and control equipment	.....	(X)	1.8	(X)	([8])
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....	(X)	13.9	(X)	[4]21.0
345001	Bolts, nuts, screws, fasteners, rivets, and screw machine products	.....	(X)	7.2	(X)	[4]1.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	204.1	(X)	[8]79.8
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	123.1	(X)	51.1

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3546, POWER DRIVEN HAND TOOLS					
	Materials, parts, containers, and supplies		(X)	574.0	(X)	274.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	15.3	11.6	15.7	5.7
331012	Sheet and strip		*27.4	14.8	16.1	3.7
331013	Plates		(Z)	(Z)	-	-
331015	Structural shapes,		(S)	6.2	(9)	(9)
331017	Wire and wire products				.6	1.0
331019	All other carbon mill shapes and forms				9 1.3	9 .9
	Alloy steel, except stainless:					
331021	Bars and bar shapes		**10.2	10.5	10.6	5.5
331029	All other alloy steel mill shapes and forms		0.3	0.6	3.8	1.7
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons	(10)	(10)	(11)	(11)
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content).	(S)	4.9	5.4	6.0
335793	Aluminum	Mil. lb. (aluminum content).	(10)	(10)	(11)	(11)
335770	Magnet wire	Million lb	8.5	11.5	(11)	(11)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	3.5	4.8	(S)	6.0
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		**1.9	3.3	2.5	4.1
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	**25.6	36.5	42.4	26.0
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	10.7	9.2	(S)	1.7
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(10)	(10)	15.5	.2
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors:					
	Purchased		(S)	8.5	3,405.4	7.7
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	3.1	16.2	2.4
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	15.7	(X)	9.6
356201	Roller		(X)	4.3	(X)	2.0
356601	Speed changers, drives, and gears		(X)	1.9		
356011	Hydraulic and pneumatic equipment, including pumps and compressors		(X)	(10)		
360101	Electric transmission, distribution, and control equipment		(10)	(10)		
345001	Bolts, nuts, screws, fasteners, rivets, and screw machine products		(X)	8.5	(X)	11 187.3
970099	All other materials and components, parts, containers, and supplies		(X)	10 343.1		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	75.0	(X)	2.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3547, ROLLING MILL MACHINERY					
	Materials, parts, containers, and supplies	.....	(X)	138.0	(X)	104.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	8.2	3.8	16.1	3.9
331012	Sheet and strip		2.5	1.2	5.1	.8
331013	Plates		26.4	9.6	26.3	5.7
331015	Structural shapes		*2.8	1.6	19.3	3.9
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms		(S)	1.7		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	2.8	(S)	2.3
331029	All other alloy steel mill shapes and forms		**.2	.2		
	Stainless steel:					
331033	Sheet and strip		(S)	.2		
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	.2		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb	-	-	-	-
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content)	(S)	.6	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb			.1	.2
335143	Plate, sheet, and strip, including military cups and discs					
335152	Pipe and tube		-	-		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.1	-	-
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(Z)	.1	-	-
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		-	-	-	-
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	Million lb	-	-	(12)	(12)
329903	Industrial diamonds	Carats	(X)	.5	(D)	(D)
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....			(12)	(12)
339915	Metal powders	Million lb	-	-	-	-
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons	(13)	(13)	53.2	1.8
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		2.0	2.6	1.9	1.4
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*3.7	5.6	4.9	3.3
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(14)	(14)	(S)	.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		14.4	141.4	(D)	(D)
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	16.0	13.7	15.4	11.7
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp.):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	-	-	(15)	(15)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors:					
	Purchased		(16)	(16)	(S)	15.1
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp. and over):					
	Purchased		162.1	162.1	.4	.6
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	.7	(X)	.3
356201	Roller	.....	(X)	4.9	(X)	2.7
356601	Speed changers, drives, and gears	.....	(X)	4.8	(X)	1262.5
356011	Hydraulic and pneumatic equipment, including pumps and compressors	.....	(X)	1.8		
360101	Electric transmission, distribution, and control equipment	.....	(X)	4.3		
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	1.5		
354501	Cutting tools for machine tools	.....	(X)	2.5		
362201	Numerical controls for metalworking machinery	.....	(X)	.1		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	1354.0		
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	15.4	(X)	.9

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3549, METALWORKING MACHINERY, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	329.8	(X)	137.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	11.2	11.4	3.8
331012	Sheet and strip		**15.4	6.3	14.6	3.2
331013	Plates		(S)	4.8	8.7	2.1
331015	Structural shapes		(S)	3.7	3.9	1.1
331017	Wire and wire products		4.7	1.5	(S)	.1
331019	All other carbon steel mill shapes and forms		(S)	2.5	(S)	.8
	Alloy steel, except stainless:					
331021	Bars and bar shapes		**1.6	2.3	1.5	1.1
331029	All other alloy steel mill shapes and forms		(S)	1.1	.2	.2
	Stainless steel:					
331033	Sheet and strip		**.1	.4	.1	.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	.9	3.2	.2	.8
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb.....			(Z)	(Z)
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content).	(S)	1.2	.3	.6
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	*11.1	10.0	(S)	8.5
335143	Plate, sheet, and strip, including military cups and discs		.2	.2		
335152	Pipe and tube		*.8	1.2	.3	.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*.2	.6	.2	.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*1.1	1.6	.4	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		*.5	.6	.5	.4
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	Million lb.....	([17])	([17])	([18])	([18])
329903	Industrial diamonds	Carats.....	(X)	.7	([18])	([18])
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....				
339915	Metal powders	Million lb.....	([17])	([17])	(D)	(D)
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons..	([17])	([17])	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(S)	5.9	4.0	2.8
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		.4	.8	1.9	1.3
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	4.4	1.3	1.3
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		*2.4	4.2	(S)	1.4
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	.4	.5	.5	.5
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(S)	.6	(S)	.1
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors:					
	Purchased		(X)	3.6	33.4	1.3
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		**36.5	5.8	26.2	2.6
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	1.4	(X)	1.1
356201	Roller	.....	(X)	1.4		
356601	Speed changers, drives, and gears	.....	(X)	4.1		
356011	Hydraulic and pneumatic equipment, including pumps and compressors	.....	(X)	10.1		
360101	Electric transmission, distribution and control equipment	.....	(X)	9.4		
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	3.2	(X)	[18]69.1
354501	Cutting tools for machine tools	.....	(X)	2.4		
362201	Numerical controls for metalworking machinery	.....	(X)	1.0		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[17]135.2		
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	82.7	(X)	29.2

Footnotes are on next page.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1977, material code 335609 was included with material code 970099 to avoid disclosing operations of individual companies.

[3]For 1972, material codes 335609, 356601, 360101, and 362201 were included with material code 970099.

[4]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[5]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[6]For 1972, material codes 356601, 360101, and 362201 were included with material code 970099.

[7]For 1972, material codes 335793, 335770, 335609, 356601, 356011, 360101, 329101, and 345001 were combined with material code 970099.

[8]For 1972, material codes 335609, 356601, 356011, and 360101 were included with material code 970099.

[9]For 1972, material code 331015 was included with material code 331019 to avoid disclosing operations of individual companies.

[10]For 1977, material codes 335609, 335793, 362110, 356011, and 360101 were included with material code 970099 to avoid disclosing operations of individual companies.

[11]For 1972, material codes 335609, 335793, and 335770 were included with material codes, 356601, 356011, 360101, 345001, and 970099.

[12]For 1972, material codes 335609, 329101, 356601, 356011, 360101, 345001, 354501, 362201, and 362201 were combined with material code 970099.

[13]For 1977, material code 999811 was combined with material code 970099 to avoid disclosing operations of individual companies.

[14]For 1977, material code 336100 was combined with material code 336200 to avoid disclosing operations of individual companies.

[15]For 1972, material code 362110 was combined with material code 362115 to avoid disclosing operations of individual companies.

[16]For 1977, material code 362115 was combined with material code 362120 to avoid disclosing operations of individual companies.

[17]For 1977, data for material codes 335609, 339915, and 999811 were included with material code 970099 to avoid disclosing figures for individual companies.

[18]For 1972, data for material codes 335609, 329903, and 329101 were included with material code 970099.

Special Industry Machinery, Except Metalworking Machinery

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DESCRIPTION OF INDUSTRIES

SPECIAL INDUSTRY MACHINERY

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3551 Food Products Machinery
3552 Textile Machinery
3553 Woodworking Machinery
3554 Paper Industries Machinery
3555 Printing Trades Machinery
3559 Special Industry Machinery, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3551, FOOD PRODUCTS MACHINERY

This industry comprises establishments primarily engaged in the manufacture of machinery for use by the food products and beverage manufacturing industries in the preparation, canning, or packaging of food products; and parts and attachments for such machinery. Establishments primarily engaged in the manufacture of industrial refrigeration machinery are classified in industry group 385.

The total value of shipments for establishments classified in the Food Products Machinery industry amounted to $1,787 million in 1977, an increase of 79 percent from 1972. The value of shipments of products classified as primary to the industry was $1,576 million, an increase of 82 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were food packing packaging and bottling machinery for which shipments increased 112 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,056 million in 1977, was 75 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 36.3 thousand employees, an increase of 14 percent from 1972. The leading States in employment were Ohio, California, Illinois, and Wisconsin, accounting for approximately 45 percent of the industry's 1977 employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3552, TEXTILE MACHINERY

This industry comprises establishments primarily engaged in the manufacture of machinery for the textile industries, including parts, attachments, and accessories. Establishments primarily engaged in the manufacture of domestic or industrial sewing machines are classified in industry 3636.

The total value of shipments for establishments classified in the Textile Machinery industry amounted to $950 million in 1977, an increase of 15 percent from 1972. The value of shipments of products classified as primary to the industry was $857 million, an increase of 16 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $539 million in 1977, was 11 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.9 thousand employees, a decrease of 21 percent from 1972. The leading States in employment were South Carolina, North Carolina, Massachusetts, and Rhode Island, accounting for approximately 70 percent of the industry's 1977 employment. Data for South Carolina have been withheld to avoid disclosing operations of indi-

vidual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 3553, WOODWORKING MACHINERY

This industry comprises establishments primarily engaged in the manufacture of machinery for sawmills, planing mills, cabinet and furniture makers, pattern makers, and veneer workers. Establishments primarily engaged in the manufacture of tools such as planes, axes, drawknives, and handsaws are classified in industry group 342; and portable power driven hand tools in industry 3546. The data for 1977 shown in tables 1, 2, and 4 are not comparable with the data for prior years. Plants engaged primarily in the manufacture of chain saws were tabulated in industry 3553 for prior years, but in industry 3546 for 1977. These plants had approximately 22 percent of the employees tabulated in industry 3553 for 1972.

The total value of shipments for establishments classified in the Woodworking Machinery industry amounted to $586 million in 1977. The value of shipments of products classified as primary to the industry was $547 million. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture was $318 million. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.3 thousand employees. The leading States in employment were Tennessee, Oregon, Mississippi, and Wisconsin, accounting for approximately 45 percent of the industry's 1977 employment. Data for Tennessee and Mississippi have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 3554, PAPER INDUSTRIES MACHINERY

This industry comprises establishments primarily engaged in the manufacture of machinery for the pulp, paper, and paper products industries. Establishments primarily engaged in the manufacture of printing trades machinery are classified in industry 3555.

The total value of shipments for establishments classified in the Paper Industries Machinery industry amounted to $827 million in 1977, an increase of 85 percent from 1972. The value of shipments of products classified as primary to the industry was $698 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were pulp mill machinery, for which shipments increased 115 percent, and paper mill machinery, for which shipments increased 50 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $465 million in 1977, was 83 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 16.4 thousand employees, an increase of 7 percent from 1972. The leading States in employment were Wisconsin, New York, Massachusetts, and New Jersey, accounting for approximately 60 percent of the industry's 1977 employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3555, PRINTING TRADES MACHINERY AND EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of machinery and equipment used by the printing and bookbinding trades. Establishments primarily engaged in the manufacture of textile printing machinery are classified in industry 3552.

The total value of shipments for establishments classified in the Printing Trades Machinery industry amounted to $1,351 million in 1977, an increase of 64 percent from 1972. The value of shipments of products classified as primary to the industry was $1,287 million, an increase of 75 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were typesetting machinery, for which shipments increased 143 percent, and lithographic printing presses, for which shipments increased 86 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $794 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.5 thousand employees, an increase of 7 percent from 1972. The leading States in employment were Massachusetts, Illinois, New Jersey, and

Pennsylvania, accounting for approximately 45 percent of the industry's 1977 employment. This represents a shift from 1972 when Massachusetts, Illinois, New Jersey, and Ohio accounted for approximately 55 percent of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of special industry machinery, not elsewhere classified, such as smelting and refining equipment, cement-making, clayworking, cotton ginning, glassmaking, hatmaking, incandescent lampmaking, leatherworking, paintmaking, rubberworking, cigar and cigarette making, tobacco working, shoemaking, and stoneworking machinery.

The total value of shipments for establishments classified in the Special Industry Machinery, N.E.C. industry amounted to $3,622 million in 1977, an increase of 38 percent from 1972. The value of shipments of products classified as primary to the industry was $3,465 million, an increase of 51 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were foundry machinery, for which shipments increased 141 percent, and plastics working machinery, for which shipments increased 54 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,096 million in 1977, was 31 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 70.4 thousand employees, an increase of 34 percent from 1972. The leading States in employment were Ohio, New York, Massachusetts, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment. This represents a shift from 1972 when Ohio, Massachusetts, New Jersey, and Pennsylvania accounted for approximately 40 percent of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
INDUSTRY 3551, FOOD PRODUCTS MACHINERY																
1977 Census--	686	740	315	36.3	522.1	22.8	45.4	292.6	1 056.4	765.3	1 786.8	46.9	(NA)	499.4	90	82
1976 ASM----	(NA)	(NA)	(NA)	34.2	452.2	21.8	44.1	251.2	842.7	665.3	1 542.5	32.2	439.8	420.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	35.6	442.9	22.4	47.1	250.3	851.3	656.2	1 514.4	33.7	424.6	441.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	40.5	464.8	26.1	54.9	266.2	892.9	674.0	1 490.9	36.8	424.0	466.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	36.1	386.1	23.2	47.6	224.7	749.3	517.1	1 241.4	31.3	348.1	316.8	(NA)	(NA)
1972 Census--	636	688	290	31.9	315.9	20.6	40.7	179.7	605.2	411.7	1 000.1	21.8	318.2	253.1	90	89
1971 ASM----	(NA)	(NA)	(NA)	33.0	288.7	21.2	42.3	161.9	551.6	360.7	922.7	18.7	235.9	222.4	(NA)	(NA)
1970 ASM[6]---	(NA)	(NA)	(NA)	32.9	286.3	21.7	44.7	165.0	548.7	371.4	918.7	36.5	217.8	230.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	33.5	280.2	22.4	46.1	163.8	550.2	355.4	890.8	16.5	251.2	224.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	33.0	258.8	21.9	44.2	149.1	512.0	336.1	840.4	17.9	242.6	205.1	(NA)	(NA)
1967 Census--	611	642	280	32.6	249.4	22.0	45.2	147.2	502.9	337.9	830.2	22.0	230.7	198.0	88	86
1966 ASM----	(NA)	(NA)	(NA)	35.4	250.2	23.9	50.0	149.9	519.7	328.5	827.3	18.3	(NA)	194.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	33.5	231.6	23.4	47.6	136.2	462.8	294.6	750.3	14.3	(NA)	170.0	(NA)	(NA)
1964 ASM[6]---	(NA)	(NA)	(NA)	32.6	216.9	20.8	43.9	122.6	435.8	287.6	715.0	20.3	213.1	162.2	(NA)	(NA)
1963 Census--	649	681	279	31.7	205.4	21.0	43.3	118.0	380.4	255.3	640.5	11.0	197.2	154.1	88	87
INDUSTRY 3552, TEXTILE MACHINERY																
1977 Census--	599	638	217	25.9	300.5	18.3	36.3	185.0	539.4	388.9	950.0	32.2	(NA)	233.3	93	94
1976 ASM----	(NA)	(NA)	(NA)	28.5	315.9	20.7	40.9	195.9	580.1	412.6	1 006.0	28.3	395.0	266.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	28.6	288.4	19.8	39.4	172.4	555.9	387.7	949.2	27.4	384.5	287.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	35.2	337.7	25.8	53.5	210.9	667.6	439.1	1 082.4	37.7	391.8	326.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	33.0	292.6	23.9	48.5	183.7	564.1	364.9	910.2	27.4	403.2	271.1	(NA)	(NA)
1972 Census--	535	579	225	32.7	271.0	23.3	47.5	168.5	487.9	340.2	823.7	27.6	378.6	231.0	94	96
1971 ASM----	(NA)	(NA)	(NA)	32.1	253.1	22.8	45.4	157.6	434.6	323.2	767.5	23.9	345.0	221.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	37.2	277.5	26.7	55.5	175.9	477.5	337.1	806.8	22.0	337.8	233.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	38.8	282.0	28.4	60.6	178.9	473.9	353.5	812.6	24.0	320.1	228.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	37.3	254.7	27.1	58.7	164.0	432.6	303.3	720.2	24.0	304.5	202.8	(NA)	(NA)
1967 Census--	524	560	239	39.7	253.3	29.4	62.5	169.1	404.1	309.2	711.7	22.2	287.3	185.1	94	95
1966 ASM----	(NA)	(NA)	(NA)	42.7	268.4	31.9	70.9	181.6	455.5	375.3	820.3	25.2	(NA)	193.6	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	41.2	247.2	30.8	68.1	166.3	408.2	318.6	707.9	20.2	(NA)	171.3	(NA)	(NA)
1964 ASM[6]---	(NA)	(NA)	(NA)	37.5	212.1	28.2	59.0	142.1	359.4	259.2	605.2	15.0	268.2	145.2	(NA)	(NA)
1963 Census--	529	561	216	36.0	196.4	26.9	56.1	129.1	314.2	232.3	542.7	13.9	255.1	135.3	93	94
INDUSTRY 3553, WOODWORKING MACHINERY																
1977 Census--	290	301	105	10.3	131.2	7.4	14.7	81.9	317.8	276.0	585.6	13.8	(NA)	111.6	94	95
1976 ASM----	(NA)	(NA)	(NA)	16.9	180.0	12.1	22.5	111.9	414.7	399.6	821.0	25.2	209.2	163.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	15.7	166.5	11.6	21.2	99.6	410.9	368.9	773.6	24.1	184.6	164.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	16.7	170.6	12.4	24.9	111.1	422.4	346.3	742.5	19.5	144.9	169.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	14.1	134.8	9.9	19.9	80.6	302.3	262.1	557.3	10.7	129.1	112.3	(NA)	(NA)
1972 Census--	229	242	109	13.7	123.9	9.4	19.2	73.9	285.1	219.6	495.2	12.4	125.3	101.8	90	91
1971 ASM----	(NA)	(NA)	(NA)	13.3	112.4	9.0	18.0	65.7	244.9	167.6	413.6	8.9	113.3	87.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	13.0	103.9	8.7	17.6	61.0	235.3	149.1	384.6	8.6	104.6	82.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	14.2	108.1	9.9	20.3	65.9	242.5	166.0	400.9	8.6	103.8	86.6	(NA)	(NA)
1968 ASM[6]---	(NA)	(NA)	(NA)	13.4	93.7	9.3	19.1	56.4	216.6	142.3	356.5	7.7	100.7	75.7	(NA)	(NA)
1967 Census--	232	239	88	12.7	83.9	8.8	17.6	50.4	192.8	127.1	314.4	8.2	91.6	72.1	83	87
1966 ASM----	(NA)	(NA)	(NA)	16.3	107.7	12.1	25.5	68.9	230.8	164.1	382.5	9.3	(NA)	84.2	(NA)	(NA)
1965 ASM[6]---	(NA)	(NA)	(NA)	14.3	91.4	10.5	21.5	58.4	199.7	139.5	339.5	10.4	(NA)	69.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.0	89.1	10.5	21.8	59.4	181.7	121.9	299.9	5.3	106.8	73.7	(NA)	(NA)
1963 Census--	245	249	91	12.1	72.9	8.7	17.7	45.9	147.0	110.1	252.8	4.7	105.1	57.6	77	81
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY																
1977 Census--	193	213	103	16.4	247.5	9.3	18.8	123.8	464.9	357.8	826.9	17.2	(NA)	220.2	84	90
1976 ASM----	(NA)	(NA)	(NA)	18.0	251.7	10.6	21.1	131.5	445.2	413.9	869.3	19.9	243.2	229.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	18.7	233.0	11.5	22.2	123.9	409.4	385.4	790.6	16.1	219.5	241.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	19.4	226.4	12.0	25.3	124.1	386.2	372.7	723.8	29.5	227.5	234.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	16.6	187.8	9.9	19.5	96.9	340.8	239.3	535.0	14.9	206.3	165.6	(NA)	(NA)
1972 Census--	203	218	109	15.3	159.0	9.0	18.6	80.8	254.0	193.7	447.8	8.3	207.9	115.1	85	86
1971 ASM----	(NA)	(NA)	(NA)	17.0	155.9	9.7	19.6	78.5	268.3	231.6	504.4	10.0	211.5	136.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.5	164.1	10.7	22.5	81.1	294.7	246.1	535.2	13.5	210.2	140.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	20.9	178.7	12.6	27.2	96.3	327.0	259.4	575.3	12.6	215.9	144.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	19.8	165.3	13.4	28.0	106.1	291.4	243.7	548.6	9.5	185.6	121.2	(NA)	(NA)
1967 Census--	206	220	110	21.3	172.5	14.6	31.1	111.6	283.4	265.5	551.4	18.6	184.9	138.1	92	86
1966 ASM----	(NA)	(NA)	(NA)	20.2	162.1	14.0	30.1	102.0	262.6	256.5	502.8	18.7	(NA)	135.6	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	20.1	153.2	14.1	30.2	95.7	242.7	245.7	483.9	12.2	(NA)	116.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	19.2	137.2	13.5	28.3	87.7	222.1	219.8	430.1	14.2	138.0	115.0	(NA)	(NA)
1963 Census--	204	217	92	18.6	130.6	12.9	27.2	82.3	217.5	196.5	403.9	10.3	128.5	103.2	88	90

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
INDUSTRY 3555, PRINTING TRADES MACHINERY																
1977 Census--	520	595	199	25.5	369.2	15.6	31.7	192.9	793.6	573.2	1 350.9	47.8	(NA)	355.4	97	92
1976 ASM----	(NA)	(NA)	(NA)	22.5	300.0	13.4	26.6	149.2	594.2	469.5	1 093.5	22.9	305.0	292.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	24.3	295.9	15.1	28.9	154.2	570.1	448.6	1 045.1	21.9	313.6	332.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.0	320.9	16.7	32.3	162.9	631.5	438.3	1 016.4	33.1	303.8	396.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	25.1	280.2	16.1	32.9	150.7	601.4	366.6	942.6	24.1	306.7	281.7	(NA)	(NA)
1972 Census--	523	574	173	23.9	249.4	15.3	30.3	137.3	503.6	317.2	823.5	16.1	280.8	243.6	97	91
1971 ASM----	(NA)	(NA)	(NA)	23.7	223.5	14.6	29.5	125.8	406.0	287.8	708.6	11.9	270.4	249.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	27.1	244.3	17.9	37.3	147.1	469.0	310.6	755.2	15.2	270.1	257.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	30.4	266.8	21.1	43.7	166.9	483.9	358.8	827.7	17.3	263.0	243.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	32.2	267.0	21.6	44.7	160.6	516.7	375.6	870.1	33.3	266.6	240.6	(NA)	(NA)
1967 Census--	485	522	165	29.2	239.6	20.1	42.2	149.2	458.7	324.8	752.3	32.9	235.0	217.2	98	94
1966 ASM----	(NA)	(NA)	(NA)	27.1	213.6	18.6	39.7	134.7	399.2	262.9	649.1	15.2	(NA)	171.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	25.5	188.5	17.9	38.1	122.6	345.8	229.1	565.0	20.9	(NA)	152.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	23.5	170.9	16.4	35.2	111.2	311.4	199.9	502.9	8.3	171.9	142.1	(NA)	(NA)
1963 Census--	463	490	136	23.0	159.4	16.4	34.3	104.4	285.9	170.7	448.4	8.9	164.0	129.2	95	92
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.																
1977 Census--	1 544	1 600	547	70.4	1 043.3	44.0	88.5	572.6	2 096.1	1 593.4	3 622.0	86.8	(NA)	888.6	88	85
1976 ASM----	(NA)	(NA)	(NA)	76.1	1 056.7	47.1	98.3	571.5	2 297.7	1 797.9	4 121.3	86.5	1 094.4	975.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	76.0	967.0	46.8	95.6	527.8	2 073.3	1 734.5	3 818.4	76.3	1 023.3	995.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	80.6	965.6	50.2	104.4	525.5	2 071.0	1 564.7	3 505.7	107.1	987.2	1 002.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	80.4	872.6	51.0	105.1	490.4	1 814.1	1 345.2	3 111.0	94.5	887.6	801.2	(NA)	(NA)
1972 Census--	1 310	1 384	523	72.6	734.7	45.1	91.5	393.8	1 596.1	1 093.9	2 616.9	73.8	816.7	640.9	82	81
1971 ASM----	(NA)	(NA)	(NA)	66.5	623.4	41.5	83.0	344.8	1 044.7	797.6	1 869.7	57.0	703.0	485.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	71.2	629.6	45.6	93.3	360.7	1 124.2	891.0	1 991.0	61.0	681.2	503.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	70.7	603.0	44.7	93.9	339.4	1 240.4	887.9	2 076.4	51.5	606.2	478.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	71.2	588.2	44.6	94.3	323.6	1 090.0	853.5	1 951.6	50.3	602.0	450.8	(NA)	(NA)
1967 Census--	1 085	1 129	486	71.3	571.2	46.1	97.8	323.0	1 038.4	818.1	1 833.0	75.4	567.0	447.4	82	81
1966 ASM----	(NA)	(NA)	(NA)	69.5	536.1	46.7	103.9	322.5	981.7	790.1	1 731.2	68.6	(NA)	403.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	61.2	440.2	41.3	90.5	269.8	805.0	639.3	1 409.8	41.1	(NA)	311.8	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	55.2	381.4	38.3	81.3	235.9	699.8	518.2	1 203.0	35.2	345.8	264.5	(NA)	(NA)
1963 Census--	1 074	1 092	388	50.2	330.1	34.1	70.9	199.4	572.2	443.9	1 015.0	22.5	323.0	235.8	83	74

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3551, FOOD PRODUCTS MACHINERY											
1977 Census--	14 401	(NA)	62	1 991	6.45	42	72	(NA)	29 136	49	23.28
1976 ASM----	13 222	12 859	63	2 022	5.69	43	72	28	24 640	53	19.10
1975 ASM----	12 441	11 926	62	2 102	5.31	43	72	28	23 912	52	18.07
1974 ASM----	11 476	10 469	64	2 103	4.84	45	76	28	22 046	52	16.26
1973 ASM----	10 695	9 642	64	2 051	4.72	41	72	28	20 756	51	15.74
1972 Census--	9 902	9 974	64	1 975	4.41	41	72	31	18 971	52	14.86
1971 ASM----	8 748	7 148	64	1 995	3.82	39	70	25	16 715	52	13.04
1970 ASM----	8 702	6 620	65	2 059	3.69	40	71	23	16 677	52	12.27
1969 ASM----	8 364	7 498	66	2 058	3.55	39	71	28	16 423	50	11.93
1968 ASM----	7 842	7 351	66	2 018	3.37	39	70	28	15 515	50	11.58
1967 Census--	7 650	7 076	67	2 054	3.25	40	70	27	15 426	49	11.12
1966 ASM----	7 067	(NA)	67	2 092	2.99	39	69	(NA)	14 680	48	10.39
1965 ASM----	6 913	(NA)	69	2 034	2.86	39	70	(NA)	13 814	50	9.72
1964 ASM----	6 653	6 536	63	2 110	2.79	40	70	29	13 368	49	9.92
1963 Census--	6 479	6 220	66	2 061	2.72	39	71	30	12 000	53	8.78
INDUSTRY 3552, TEXTILE MACHINERY											
1977 Census--	11 590	(NA)	70	1 985	5.09	40	72	(NA)	20 800	55	14.85
1976 ASM----	11 084	13 859	72	1 975	4.78	41	72	39	20 354	54	14.18
1975 ASM----	10 083	13 444	69	1 989	4.37	40	71	40	19 437	51	14.10
1974 ASM----	9 593	11 130	73	2 073	3.94	40	71	36	18 965	50	12.47
1973 ASM----	8 866	12 218	72	2 029	3.78	40	72	44	17 093	51	11.63
1972 Census--	8 287	11 577	71	2 038	3.54	41	74	45	14 920	55	10.27
1971 ASM----	7 884	10 747	71	1 991	3.47	42	75	44	13 538	58	9.57
1970 ASM----	7 459	9 080	71	2 078	3.16	41	76	41	12 836	58	8.60
1969 ASM----	7 268	8 250	73	2 133	2.95	43	78	39	12 213	59	7.82
1968 ASM----	6 828	8 163	72	2 166	2.79	42	77	42	11 597	58	7.36
1967 Census--	6 380	7 236	74	2 125	2.70	43	79	40	10 178	62	6.46
1966 ASM----	6 285	(NA)	74	2 222	2.56	45	78	(NA)	10 667	58	6.42
1965 ASM----	6 000	(NA)	74	2 211	2.44	45	79	(NA)	9 907	60	5.99
1964 ASM----	5 656	7 152	75	2 092	2.40	42	77	44	9 584	59	6.09
1963 Census--	5 455	7 086	74	2 085	2.30	42	78	47	8 727	62	5.60
INDUSTRY 3553, WOODWORKING MACHINERY											
1977 Census--	12 700	(NA)	71	1 982	5.56	47	69	(NA)	30 758	41	21.60
1976 ASM----	10 650	12 378	71	1 859	4.97	48	70	25	24 538	43	18.43
1975 ASM----	10 605	11 757	73	1 827	4.69	47	69	23	26 171	40	19.38
1974 ASM----	10 215	8 676	74	2 008	4.46	46	69	19	25 293	40	16.96
1973 ASM----	9 560	9 156	70	2 010	4.05	47	71	23	21 439	44	15.19
1972 Census--	9 043	9 145	68	2 042	3.84	44	69	25	20 810	43	14.84
1971 ASM----	8 451	8 518	67	2 000	3.65	40	67	27	18 413	45	13.60
1970 ASM----	7 992	8 046	66	2 022	3.46	38	65	27	18 100	44	13.36
1969 ASM----	7 612	7 309	69	2 050	3.24	41	68	25	17 077	44	11.94
1968 ASM----	6 992	7 514	69	2 053	2.95	39	66	28	16 164	43	11.34
1967 Census--	6 606	7 212	69	2 000	2.86	40	67	29	15 181	43	10.95
1966 ASM----	6 607	(NA)	74	2 107	2.70	42	71	(NA)	14 159	46	9.05
1965 ASM----	6 391	(NA)	73	2 047	2.71	41	68	(NA)	13 965	45	9.28
1964 ASM----	6 364	7 628	75	2 076	2.72	40	70	35	12 978	49	8.33
1963 Census--	6 024	8 685	71	2 034	2.59	43	72	41	12 148	49	8.30
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY											
1977 Census--	15 137	(NA)	57	2 016	6.56	43	73	(NA)	28 434	53	24.66
1976 ASM----	13 983	13 511	58	1 990	6.23	47	76	27	24 733	56	21.09
1975 ASM----	12 459	11 737	61	1 930	5.58	48	78	27	21 893	56	18.44
1974 ASM----	11 670	11 726	61	2 108	4.90	51	82	31	19 907	58	15.26
1973 ASM----	11 313	12 427	59	1 969	4.96	44	79	38	20 530	55	17.47
1972 Census--	10 392	13 588	58	2 066	4.34	43	78	46	16 601	62	13.65
1971 ASM----	9 170	12 441	57	2 020	4.00	45	76	41	15 782	58	13.68
1970 ASM----	8 870	11 362	57	2 102	3.60	45	76	39	15 929	55	13.09
1969 ASM----	8 550	10 330	60	2 158	3.54	45	76	37	15 645	54	12.02
1968 ASM----	8 348	9 373	67	2 089	3.78	44	74	33	14 717	56	10.40
1967 Census--	8 098	8 680	68	2 130	3.58	48	79	33	13 305	60	9.11
1966 ASM----	8 024	(NA)	69	2 150	3.38	51	83	(NA)	13 000	61	8.72
1965 ASM----	7 621	(NA)	70	2 141	3.16	50	82	(NA)	12 074	63	8.03
1964 ASM----	7 108	7 150	69	2 096	3.09	51	83	32	11 507	61	7.84
1963 Census--	7 021	6 908	69	2 108	3.02	48	80	31	11 693	60	7.99

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3555, PRINTING TRADES MACHINERY										
1977 Census--	14 470	(NA)	61	2 029	6.07	42	69	(NA)	31 108	46	24.99
1976 ASM----	13 333	13 555	59	1 985	5.60	42	70	27	26 408	50	22.33
1975 ASM----	12 176	12 905	62	1 913	5.33	42	71	30	23 460	51	19.72
1974 ASM----	11 885	11 251	61	1 934	5.04	43	74	29	23 388	50	19.55
1973 ASM----	11 163	12 219	64	2 043	4.58	38	68	32	23 960	46	18.27
1972 Census--	10 435	11 748	64	1 980	4.53	38	68	34	21 071	49	16.62
1971 ASM----	9 430	11 409	61	2 020	4.26	40	72	38	17 130	55	13.76
1970 ASM----	9 014	9 966	66	2 083	3.94	41	73	35	17 306	52	12.57
1969 ASM----	8 776	8 651	69	2 071	3.81	43	75	31	15 917	55	11.07
1968 ASM----	8 291	8 279	67	2 069	3.59	43	73	30	16 046	51	11.55
1967 Census--	8 205	8 047	68	2 099	3.53	43	75	31	15 708	52	10.86
1966 ASM----	7 881	(NA)	68	2 134	3.39	40	73	(NA)	14 730	53	10.05
1965 ASM----	7 392	(NA)	70	2 128	3.21	40	73	(NA)	13 560	54	9.07
1964 ASM----	7 272	7 314	69	2 146	3.15	39	73	34	13 251	54	8.84
1963 Census--	6 930	7 130	71	2 091	3.04	38	73	36	12 430	55	8.33
	INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.										
1977 Census--	14 812	(NA)	62	2 009	6.47	43	72	(NA)	29 760	49	23.68
1976 ASM----	13 885	14 381	61	2 087	5.81	43	69	26	30 193	45	23.37
1975 ASM----	12 723	13 464	61	2 042	5.52	45	70	26	27 280	46	21.68
1974 ASM----	11 980	12 248	62	2 079	5.03	44	72	28	25 694	46	19.83
1973 ASM----	10 853	11 039	63	2 060	4.66	43	71	28	22 563	48	17.26
1972 Census--	13 994	15 556	85	2 028	4.30	41	69	31	30 401	46	17.44
1971 ASM----	9 374	10 571	62	2 000	4.15	42	76	37	15 709	59	12.58
1970 ASM----	8 842	9 567	64	2 046	3.86	44	76	34	15 789	56	12.04
1969 ASM----	8 528	8 574	63	2 100	3.61	42	71	29	17 544	48	13.20
1968 ASM----	8 261	8 455	62	2 114	3.43	43	73	30	15 308	53	11.55
1967 Census--	8 011	7 952	64	2 121	3.30	44	75	30	14 563	55	10.61
1966 ASM----	7 713	(NA)	67	2 224	3.10	45	76	(NA)	14 125	54	9.44
1965 ASM----	7 192	(NA)	67	2 191	2.98	45	76	(NA)	13 153	54	8.89
1964 ASM----	6 909	6 264	69	2 122	2.90	43	74	28	12 677	54	8.60
1963 Census--	6 575	6 434	67	2 079	2.81	43	76	31	11 398	57	8.07

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 1c. Historical Statistics for Industry 3553, Woodworking Machinery (With Chain Saw Plants): 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies (no.)	All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets		End of year inventories (mil. dol.)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (mil.)	Wages (mil. dol.)				New capital expenditures (mil. dol.)	Gross value of fixed assets (mil. dol.)		Specialization (percent)	Coverage (percent)
1977 Census..	296	310	114	16.0	191.3	11.7	22.5	119.8	521.3	507.6	1,016.4	24.0	(NA)	185.6	(NA)	(NA)
1976 ASM.....	(NA)	(NA)	(NA)	16.9	180.0	12.1	22.5	111.9	414.7	399.6	821.0	25.2	209.2	163.3	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	15.7	166.5	11.6	21.2	99.6	410.9	368.9	773.6	24.1	184.6	164.8	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	16.7	170.6	12.4	24.9	111.1	422.4	346.3	742.5	19.5	144.9	169.5	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	14.1	134.8	9.9	19.9	80.6	302.3	262.1	557.3	10.7	129.1	112.3	(NA)	(NA)
1972 Census..	229	242	109	13.7	123.9	9.4	19.2	73.9	205.1	219.6	495.2	12.4	125.3	101.8	90	91
1971 ASM.....	(NA)	(NA)	(NA)	13.3	112.4	9.0	18.0	65.7	244.9	167.6	413.6	8.9	113.3	87.3	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	13.0	103.9	8.7	17.6	61.0	235.3	149.1	384.6	8.6	104.6	82.2	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	14.2	108.1	9.9	20.3	65.9	242.5	166.0	400.9	8.6	103.8	86.6	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	13.4	93.7	9.3	19.1	56.4	216.6	142.3	356.5	7.7	100.7	75.7	(NA)	(NA)
1967 Census..	232	239	88	12.7	83.9	8.8	17.6	50.4	192.8	127.1	314.4	8.2	91.6	72.1	83	87
1966 ASM.....	(NA)	(NA)	(NA)	16.3	107.7	12.1	25.5	68.7	230.8	164.1	382.5	9.3	(NA)	84.2	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	14.3	91.4	10.5	21.5	58.4	199.7	139.5	339.5	10.4	(NA)	69.6	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	14.0	89.1	10.5	21.8	59.4	181.7	121.9	299.9	5.3	106.8	73.7	(NA)	(NA)
1963 Census..	245	249	91	12.1	72.9	8.7	17.7	45.9	147.0	110.1	252.8	4.7	105.1	57.6	77	81

Note: For 1977, content of industry was changed to exclude chain saws. Beginning in 1977, chain saws are classified in Industry 3546, Power Driven Hand Tools. 1977 data include chain saw plants in order to present figures comparable with historical data of industry.
(NA) Not available.
[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3551, FOOD PRODUCTS MACHINERY														
United States	-	**740**	**315**	**36.3**	**522.1**	**22.8**	**45.4**	**292.5**	**1 056.4**	**765.3**	**1 786.8**	**46.9**	**31.9**	**605.2**
New England Division:														
Massachusetts	-	13	5	1.1	15.5	0.6	1.3	7.9	33.7	23.1	55.9	0.7	(NA)	(D)
Connecticut	-	7	3	0.8	11.1	0.5	0.9	6.0	21.2	12.0	33.4	(D)	0.6	10.8
Middle Atlantic Division:														
New York	E2	57	21	1.5	20.2	0.9	1.8	10.0	42.3	27.2	68.5	1.6	(NA)	(D)
New Jersey	-	35	11	0.8	10.4	0.4	0.8	4.5	23.1	16.3	39.1	0.6	(NA)	(D)
Pennsylvania	-	25	11	2.1	28.0	1.2	2.4	13.9	54.1	36.7	90.8	1.7	1.3	21.8
East North Central Division:														
Ohio	-	47	26	4.3	58.7	2.6	5.2	32.4	127.4	108.1	224.7	5.4	(NA)	(D)
Indiana	-	15	6	0.8	11.4	0.5	1.1	7.4	28.1	21.0	50.0	1.8	(NA)	(D)
Illinois	-	68	33	3.6	55.0	2.2	4.5	29.3	110.8	95.9	205.8	6.5	3.9	74.7
Michigan	E1	20	5	0.7	8.5	0.5	1.0	5.8	15.4	13.1	27.7	0.7	1.4	25.9
Wisconsin	-	50	24	4.2	58.0	2.8	5.6	37.4	106.7	77.7	178.2	4.9	3.0	49.3
West North Central Division:														
Minnesota	-	22	10	0.8	11.3	0.5	1.0	6.3	23.2	23.2	44.2	0.6	0.5	9.4
Iowa	-	12	5	1.2	19.4	0.7	1.2	9.1	40.3	17.2	59.7	1.4	1.0	26.2
Missouri	-	20	7	0.8	13.8	0.5	1.1	8.3	29.6	18.9	50.5	(D)	0.6	12.1
Kansas	-	13	9	0.7	8.7	0.5	0.9	5.0	18.6	13.9	30.3	0.6	(NA)	(D)
South Atlantic Division:														
Maryland	-	11	6	1.0	14.5	0.7	1.3	10.5	38.6	32.5	62.1	0.4	1.0	19.3
Virginia	-	6	5	0.6	8.8	0.3	0.5	3.3	16.7	8.7	24.2	(D)	(NA)	(D)
North Carolina	-	7	5	0.3	3.7	0.2	0.3	1.7	6.5	5.2	11.8	0.3	0.4	5.2
Georgia	-	25	13	1.4	17.1	0.8	1.7	9.0	30.9	25.2	56.1	1.5	1.1	20.8
Florida	-	27	9	1.0	15.2	0.6	1.3	7.8	31.1	20.0	49.3	2.2	(NA)	(D)
East South Central Division:														
Kentucky	-	7	6	0.8	13.5	0.5	1.1	8.4	19.0	10.7	29.8	0.6	(NA)	(D)
West South Central Division:														
Louisiana	E2	5	4	0.6	6.9	0.4	0.9	4.6	6.3	11.2	17.5	0.9	(NA)	(D)
Texas	-	37	13	1.0	12.8	0.6	1.3	7.0	23.5	18.7	41.2	1.1	0.7	10.4
Mountain Division:														
Utah	-	6	2	0.2	2.4	0.1	0.2	1.2	3.5	2.2	5.7	(D)	(NA)	(NA)
Nevada	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	E1	18	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	E3	15	4	0.3	4.0	0.2	0.4	2.3	8.2	4.8	12.8	0.3	(NA)	(D)
California	-	125	51	4.6	74.2	2.8	5.7	41.4	147.6	93.8	242.9	6.1	(NA)	(D)
INDUSTRY 3552, TEXTILE MACHINERY														
United States	-	**638**	**217**	**25.9**	**300.5**	**18.3**	**36.3**	**185.0**	**539.4**	**388.9**	**950.0**	**32.2**	**32.7**	**487.9**
New England Division:														
New Hampshire	-	5	4	0.5	5.0	0.4	0.8	3.7	11.3	4.5	14.6	0.4	1.3	21.7
Massachusetts	-	55	18	3.2	38.4	2.3	4.6	25.5	66.8	54.5	121.6	1.8	4.8	68.1
Rhode Island	-	25	7	1.5	20.8	0.8	1.7	8.2	40.4	13.4	56.2	(D)	2.3	39.8
Connecticut	-	8	4	0.3	3.0	0.2	0.4	2.1	4.5	6.0	10.6	0.4	(NA)	(NA)
Middle Atlantic Division:														
New York	-	46	14	1.3	16.8	0.7	1.3	8.1	36.3	22.7	58.9	2.7	2.0	31.1
New Jersey	E1	50	11	0.7	8.8	0.5	0.9	5.2	14.9	11.3	25.9	0.4	0.9	16.8
Pennsylvania	-	34	13	1.4	18.4	0.9	1.8	10.8	22.5	20.5	44.7	1.0	5.5	58.0
East North Central Division:														
Ohio	-	9	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	11	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	-	153	58	5.8	61.3	4.0	8.0	36.8	113.3	95.5	215.5	6.8	6.4	109.1
South Carolina	-	86	39	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	5.4	89.2
Georgia	E2	42	15	1.3	14.5	1.0	2.0	9.4	24.4	18.9	43.3	1.8	(NA)	(D)
East South Central Division:														
Kentucky	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	-	12	9	0.8	10.1	0.6	1.2	6.9	16.4	15.9	34.1	(D)	0.9	12.8
INDUSTRY 3553, WOODWORKING MACHINERY														
United States	-	**301**	**105**	**10.3**	**131.2**	**7.4**	**14.7**	**81.9**	**317.8**	**276.0**	**585.6**	**13.8**	**13.7**	**285.1**
New England Division:														
Vermont	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	E3	12	2	0.2	2.0	0.1	0.3	1.2	4.2	3.6	7.9	0.3	(NA)	(NA)
Middle Atlantic Division:														
New York	E2	9	5	0.2	2.8	0.1	0.3	1.5	6.3	3.3	9.6	0.2	(NA)	(D)
Pennsylvania	-	12	4	0.5	5.6	0.4	0.7	3.6	18.1	12.9	31.2	0.4	0.5	7.4
East North Central Division:														
Ohio	-	8	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	9	3	0.2	2.7	0.1	0.3	1.5	5.8	4.3	10.3	0.3	(NA)	(D)
Illinois	E1	16	4	0.4	4.8	0.3	0.6	3.0	10.9	5.9	16.7	(D)	(NA)	(D)
Michigan	E1	15	4	0.4	4.6	0.2	0.5	2.9	11.3	8.8	19.3	0.7	0.2	4.6
Wisconsin	E1	17	6	0.7	10.3	0.5	1.0	6.2	19.3	10.3	29.5	0.6	0.7	11.2

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3553, WOODWORKING MACHINERY—Con.														
West North Central Division:														
Minnesota	-	12	5	0.4	6.1	0.3	0.5	3.4	14.7	8.0	22.5	0.3	(NA)	(D)
South Atlantic Division:														
North Carolina	E1	15	6	0.6	6.2	0.5	1.0	4.2	8.5	11.1	19.6	1.2	(NA)	(D)
East South Central Division:														
Tennessee	-	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	7	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	E1	8	2	0.2	2.0	0.1	0.3	1.3	4.9	4.0	8.8	0.2	(NA)	(NA)
Texas	-	9	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	16	5	0.6	9.6	0.4	0.7	5.5	20.9	12.4	33.2	0.2	(NA)	(D)
Oregon	-	48	22	1.3	20.2	0.9	1.8	12.7	39.5	43.8	81.8	1.6	(NA)	(D)
California	E1	32	11	0.5	6.4	0.4	0.7	4.0	14.9	8.8	23.5	0.4	(NA)	(D)
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY														
United States	-	**213**	**103**	**16.4**	**247.5**	**9.3**	**18.8**	**123.8**	**464.9**	**357.8**	**826.9**	**17.2**	**15.3**	**254.0**
New England Division:														
Maine	-	5	3	0.3	4.0	0.2	0.4	2.2	7.4	4.5	11.9	(D)	(NA)	(D)
New Hampshire	-	8	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	26	14	1.9	26.4	1.0	2.0	12.6	46.7	37.0	80.6	1.5	1.9	31.0
Middle Atlantic Division:														
New York	-	29	12	2.1	30.4	1.2	2.2	13.7	54.4	41.2	92.4	2.3	1.5	23.6
New Jersey	-	18	9	1.9	29.0	1.0	2.0	14.6	46.0	38.9	88.8	1.6	1.4	26.3
Pennsylvania	-	15	9	1.0	15.6	0.7	1.4	8.5	29.3	17.5	46.3	0.6	1.8	26.7
East North Central Division:														
Ohio	-	13	5	0.7	9.9	0.4	0.7	5.1	25.8	16.8	41.3	0.5	1.3	19.7
Michigan	-	6	2	0.3	5.0	0.2	0.4	3.0	8.2	8.8	17.1	0.2	(NA)	(NA)
Wisconsin	-	25	16	4.1	64.7	2.1	4.1	28.9	143.7	99.5	246.7	5.9	(NA)	(D)
West North Central Division:														
Missouri	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Alabama	E1	7	3	0.2	2.0	0.2	0.4	1.2	2.7	2.5	5.9	0.5	(NA)	(D)
Pacific Division:														
Washington	-	3	3	0.5	8.1	0.3	0.5	3.9	14.2	10.7	23.6	(D)	(NA)	(D)
Oregon	E1	7	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3555, PRINTING TRADES MACHINERY														
United States	-	**595**	**199**	**25.5**	**369.2**	**15.6**	**31.7**	**192.9**	**793.6**	**573.2**	**1 350.9**	**47.8**	**23.9**	**503.6**
New England Division:														
New Hampshire	-	6	3	0.7	10.3	0.3	0.7	4.1	10.4	9.3	19.7	(D)	(NA)	(D)
Massachusetts	-	35	15	3.7	54.9	1.8	4.0	20.4	118.1	89.2	204.6	8.2	2.3	49.7
Connecticut	-	14	5	1.1	16.6	0.6	1.5	8.6	42.5	24.3	65.3	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	99	22	2.2	31.5	1.6	3.0	18.3	69.9	49.3	118.5	3.4	2.1	40.8
New Jersey	-	61	24	2.8	40.0	1.5	3.1	19.8	105.5	82.6	177.9	3.6	3.0	67.0
Pennsylvania	-	27	13	2.6	34.1	1.9	3.7	23.1	67.1	67.3	130.4	2.2	1.5	31.2
East North Central Division:														
Ohio	-	37	12	2.0	29.0	1.4	2.7	17.6	56.0	31.8	90.0	2.1	2.3	44.6
Illinois	-	77	31	2.8	41.5	1.8	3.7	24.3	87.0	54.5	139.6	3.9	5.3	110.5
Michigan	-	23	10	1.0	13.8	0.6	1.3	7.7	27.9	18.4	44.8	2.7	0.6	12.0
Wisconsin	-	17	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.0
West North Central Division:														
Iowa	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	21	5	0.6	7.5	0.4	0.7	3.7	14.9	10.0	24.3	0.8	0.4	9.4
Kansas	-	9	4	0.7	10.3	0.4	0.9	5.4	22.4	16.6	37.3	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	7	4	0.4	5.3	0.2	0.5	3.4	9.3	5.2	15.0	1.0	(NA)	(D)
Florida	-	14	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	8.5
West South Central Division:														
Texas	-	11	4	0.8	11.3	0.5	1.0	6.1	35.2	25.5	61.2	(D)	(NA)	(D)
Pacific Division:														
Washington	-	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	46	12	1.2	17.8	0.7	1.2	7.2	32.0	15.9	47.0	2.8	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.														
United States	-	**1 600**	**547**	**70.4**	**1 043.3**	**44.0**	**88.5**	**(D)**	**(S)**	**(D)**	**3 622.0**	**(D)**	**72.6**	**1 596.1**
New England Division:														
Maine	E1	8	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	73	25	5.4	84.3	2.9	6.0	42.6	179.6	97.2	272.9	6.7	6.7	124.3
Rhode Island	-	12	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	46	13	3.2	48.2	1.9	3.9	25.9	89.7	73.7	162.6	2.2	3.5	69.9
Middle Atlantic Division:														
New York	-	109	29	5.6	88.3	3.2	6.0	41.7	193.7	104.8	288.3	6.4	(NA)	(D)
New Jersey	-	140	47	4.9	74.1	2.8	5.8	37.5	131.9	100.6	233.9	4.6	5.5	93.7
Pennsylvania	-	107	40	4.3	62.4	2.7	5.3	33.7	122.7	130.3	246.5	4.2	(NA)	(D)
East North Central Division:														
Ohio	-	161	87	11.7	173.2	7.6	15.4	102.6	322.6	279.9	593.7	14.9	11.8	239.5
Indiana	-	50	14	2.8	40.3	1.7	3.9	23.0	92.1	49.6	138.0	2.9	4.1	76.5
Illinois	-	108	40	5.0	78.3	3.4	6.8	48.1	157.6	137.9	291.9	5.4	4.0	88.1
Michigan	-	101	48	4.4	72.1	2.9	6.1	41.9	139.6	107.3	238.3	7.8	3.7	75.9
Wisconsin	-	38	16	1.7	24.9	1.0	1.9	11.7	63.1	49.1	111.5	1.8	2.1	52.9
West North Central Division:														
Minnesota	-	20	7	0.9	12.5	0.6	1.1	7.0	24.2	18.0	42.4	0.6	0.9	16.0
Iowa	-	20	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	E2	23	4	0.3	3.3	0.2	0.3	1.9	8.1	4.6	12.5	0.2	(NA)	(NA)
Kansas	-	9	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	8.3
South Atlantic Division:														
Delaware	-	6	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Maryland	-	12	5	1.5	22.4	0.9	1.7	11.6	46.2	18.2	62.3	2.6	1.4	26.0
Virginia	-	14	6	0.8	10.8	0.5	1.0	6.3	14.7	12.7	29.0	0.6	0.6	10.5
North Carolina	-	26	7	0.6	8.0	0.4	0.9	5.0	16.5	9.9	25.9	1.0	(NA)	(D)
Georgia	-	21	4	1.0	10.0	0.7	1.4	5.7	11.9	28.9	34.6	0.8	0.7	9.3
Florida	-	36	6	0.8	9.8	0.5	1.0	5.4	16.5	21.8	37.5	(D)	0.8	9.4
East South Central Division:														
Kentucky	-	15	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	7.6
Tennessee	-	16	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	E6	9	4	0.3	3.1	0.2	0.3	1.8	6.2	4.9	10.9	0.3	(NA)	(D)
Oklahoma	-	30	11	1.6	21.5	1.1	2.0	11.2	63.4	38.7	97.9	2.3	1.2	24.0
Texas	-	74	22	2.7	39.5	1.8	3.6	19.9	83.9	55.1	137.0	7.2	1.9	30.7
Mountain Division:														
Arizona	E3	12	3	0.2	2.2	0.1	0.2	1.4	3.1	3.1	6.1	0.1	(NA)	(NA)
Pacific Division:														
Washington	-	31	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	-	14	5	0.5	7.6	0.2	0.5	2.9	17.8	10.0	27.7	0.8	(NA)	(D)
California	E1	193	54	4.3	59.6	2.7	5.5	34.4	137.2	96.9	232.8	5.7	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Food products machinery (SIC 3551)	Textile machinery (SIC 3552)	Woodworking machinery (SIC 3553)	Paper industries machinery (SIC 3554)	Printing trades machinery (SIC 3555)	Special industry machinery, n.e.c. (SIC 3559)
Coverage ratio[2]	do	92	94	95	90	92	85
All establishments	number	740	638	301	213	595	1 600
With 1 to 19 employees	do	425	421	196	110	396	1 053
With 20 to 99 employees	do	216	164	80	65	152	409
With 100 employees or more	do	99	53	25	38	47	138
All employees, average for year	1,000	36.3	25.9	10.3	16.4	25.5	70.4
Payroll for year, all employees	mil. dol.	522.1	300.5	131.2	247.5	369.2	1 043.3
Production workers:							
Average for year	1,000	22.8	18.3	7.4	9.3	15.6	44.0
March	do	22.7	18.0	7.1	9.5	15.4	43.4
May	do	22.6	18.1	7.4	9.3	15.5	43.8
August	do	22.6	18.6	7.6	9.2	15.5	44.2
November	do	23.1	18.4	7.6	9.3	16.1	44.6
Hours	millions	45.4	36.3	14.7	18.8	31.7	88.5
January to March	do	11.3	9.3	3.6	4.8	7.9	20.7
April to June	do	11.5	8.6	3.7	4.8	7.9	21.1
July to September	do	11.1	9.0	3.6	4.5	7.8	22.9
October to December	do	11.5	9.4	3.8	4.7	8.2	23.9
Wages	mil. dol.	292.6	185.0	81.9	123.8	192.9	572.6
Cost of materials, etc.	do	765.3	388.9	276.0	357.8	573.2	1 593.4
Materials, parts, containers, etc., consumed	do	636.4	331.7	248.0	298.4	452.7	1 332.0
Resales	do	76.8	36.0	17.0	30.1	80.5	136.7
Fuels consumed	do	5.8	5.8	1.5	2.9	3.7	13.8
Purchased electric energy	do	10.6	9.6	3.0	5.8	8.7	25.0
Contract work	do	35.7	5.9	6.5	20.5	27.6	86.0
Value of shipments, including resales	do	1 786.8	950.0	585.6	826.9	1 350.9	3 622.0
Value of resales	do	101.4	49.4	23.3	44.2	102.0	188.3
Value added by manufacture	do	1 056.4	539.4	317.8	464.9	793.6	2 096.1
Manufacturers' inventories:							
Beginning of year	do	453.4	256.6	100.6	225.0	316.7	819.5
Finished products	do	139.0	89.6	34.4	41.0	72.5	197.4
Work in process	do	182.3	100.3	36.4	119.0	140.4	383.4
Materials, supplies, fuel, etc.	do	132.2	66.7	29.8	64.9	103.8	238.7
End of year	do	499.4	233.3	111.6	220.2	355.4	888.6
Finished products	do	160.0	71.4	36.8	35.5	77.6	220.3
Work in process	do	196.1	96.9	42.2	120.4	151.1	427.9
Materials, supplies, fuel, etc.	do	143.3	65.1	32.6	64.3	126.6	240.4
Capital expenditures for plant and equipment	do	49.4	35.5	15.7	21.0	51.9	107.5
New capital expenditures	do	46.9	32.2	13.8	17.2	47.8	86.8
New buildings and other structures	do	9.0	7.9	3.0	4.5	14.0	20.0
New machinery and equipment	do	37.9	24.3	10.8	12.6	33.7	66.8
Used capital expenditures	do	2.5	3.3	2.0	3.8	4.1	20.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Food products machinery (SIC 3551)		Textile machinery (SIC 3552)		Woodworking machinery (SIC 3553)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	2.0	8	(1.8)	43	(1.6)	(A)
Response coverage ratio[2] (percent)	58	(X)	56	(X)	59	(X)
Machinery	7.2	8	2.4	7	(3.1)	16
Response coverage ratio[2] (percent)	59	(X)	61	(X)	59	(X)
Cost of purchased communication services	8.5	13	4.5	8	(1.6)	26
Response coverage ratio[2] (percent)	65	(X)	65	(X)	64	(X)
Rental payments	10.8	8	(10.2)	20	(4.0)	27
Buildings and other structures	6.4	13	(7.3)	29	(1.5)	43
Machinery and equipment	4.4	7	2.9	8	(2.6)	48
Supplemental labor costs	93.6	2	55.6	2	23.0	5
Legal costs	42.3	1	24.4	2	11.4	6
Voluntary costs	51.3	3	31.3	2	11.7	6
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	148.7	4	93.5	7	36.3	9
New capital expenditures	(8.8)	17	(10.8)	21	(3.6)	19
Used capital expenditures	(0.6)	54	(2.3)	23	1.1	2
Retirements	(5.2)	18	(2.2)	31	(1.3)	73
End of year	153.0	5	104.4	6	39.7	9
Machinery and equipment:						
Beginning of year	341.3	3	257.8	5	87.8	7
New capital expenditures	35.0	6	(35.7)	19	15.0	14
Automobiles, trucks, etc., for highway use[3]	(0.9)	(A)	(1.5)	(A)	(1.4)	(A)
Computers and peripheral data processing equipment[3]	(1.9)	(A)	(1.0)	(A)	(Z)	(A)
All other[3]	(24.8)	81	(25.2)	(A)	(13.0)	(A)
New machinery and equipment, n.s.k.[4]	(7.4)	(A)	(8.0)	(A)	(0.5)	(A)
Used capital expenditures	1.4	5	(1.8)	22	(1.0)	37
Retirements	36.4	3	(13.9)	27	(3.5)	23
End of year	341.4	3	281.4	4	100.4	6
Total gross value of depreciable assets:						
Beginning of year	490.0	3	351.4	5	124.2	6
New capital expenditures	43.8	6	(46.5)	19	18.6	13
Used capital expenditures	(2.1)	18	(4.0)	22	(2.2)	18
Retirements	41.6	4	(16.1)	26	(4.8)	36
End of year	494.3	3	385.8	4	140.2	5
Depreciation charges during 1977	36.1	3	28.4	5	10.0	8
Buildings and other structures	6.6	11	5.4	7	1.6	13
Machinery and equipment	29.5	3	23.0	5	8.5	10

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Paper industries machinery (SIC 3554)		Printing trades machinery (SIC 3555)		Special industry machinery, n.e.c. (SIC 3559)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	1.5	12	2.1	13	(5.8)	15
Response coverage ratio[2] (percent)	59	(X)	68	(X)	60	(X)
Machinery	3.1	6	4.5	12	(11.9)	33
Response coverage ratio[2] (percent)	55	(X)	73	(X)	60	(X)
Cost of purchased communication services	4.3	7	(9.2)	41	17.7	8
Response coverage ratio[2] (percent)	70	(X)	79	(X)	65	(X)
Rental payments	6.3	11	13.6	9	26.9	9
Buildings and other structures	(2.0)	21	7.1	7	12.4	14
Machinery and equipment	4.3	9	(6.5)	22	14.6	12
Supplemental labor costs	49.3	1	62.5	2	209.2	2
Legal costs	21.0	2	30.0	2	82.2	2
Voluntary costs	28.3	2	32.5	2	127.0	3
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	82.2	2	87.2	5	316.8	5
New capital expenditures	4.1	10	13.1	5	(20.2)	19
Used capital expenditures	0.8	1	0.1	6	(25.7)	47
Retirements	(3.2)	18	7.9	6	4.9	10
End of year	83.9	3	92.5	5	357.8	5
Machinery and equipment:						
Beginning of year	155.3	4	264.4	3	634.8	1
New capital expenditures	8.7	6	30.5	9	80.1	11
Automobiles, trucks, etc., for highway use[3]	(0.4)	(A)	(0.7)	(A)	(2.9)	(A)
Computers and peripheral data processing equipment[3]	(0.1)	(A)	(0.6)	(A)	(1.3)	(A)
All other[3]	(8.1)	(A)	(24.5)	82	(70.6)	29
New machinery and equipment, n.s.k.[4]	-	(X)	(4.7)	(A)	(5.3)	(A)
Used capital expenditures	2.6	3	(4.6)	22	5.0	12
Retirements	(11.1)	24	23.1	3	29.7	9
End of year	155.5	4	276.4	3	690.1	1
Total gross value of depreciable assets:						
Beginning of year	237.5	3	351.6	3	951.5	2
New capital expenditures	12.8	4	43.6	6	100.3	11
Used capital expenditures	3.5	2	(4.7)	21	(30.7)	40
Retirements	(14.3)	23	30.9	4	34.5	8
End of year	239.5	3	368.9	3	1,048.0	2
Depreciation charges during 1977	13.8	6	29.7	9	68.2	5
Buildings and other structures	4.3	12	3.5	5	13.0	5
Machinery and equipment	9.5	3	26.2	10	55.1	7

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

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Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3551, FOOD PRODUCTS MACHINERY												
Total	-	**740**	**36.3**	**522.1**	**22.8**	**45.4**	**292.6**	**1 056.4**	**765.3**	**1 786.8**	**46.9**	**499.4**
Establishments with an average of—												
1 to 4 employees	E7	209	0.3	4.6	0.3	0.4	2.6	5.1	7.1	17.4	0.4	4.8
5 to 9 employees	E5	113	0.8	10.1	0.5	1.0	5.6	20.9	15.4	36.2	0.8	9.8
10 to 19 employees	E2	103	1.4	17.4	0.9	1.7	9.9	37.4	26.7	62.9	1.6	13.7
20 to 49 employees	-	151	4.8	64.9	3.3	6.5	39.3	134.5	95.7	226.9	5.7	50.0
50 to 99 employees	-	65	4.5	62.2	2.8	5.8	33.5	126.8	106.6	231.4	4.1	52.2
100 to 249 employees	-	72	10.8	159.4	6.6	13.2	86.2	320.0	246.7	556.0	18.9	162.3
250 to 499 employees	-	18	6.3	98.9	3.9	8.1	55.1	199.3	130.4	323.3	8.7	77.0
500 to 999 employees	-	7	(7.3)	(104.8)	(4.5)	(8.7)	(60.5)	(212.4)	(136.6)	(332.6)	(6.8)	(129.5)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	249	0.9	12.5	0.6	1.2	6.9	25.3	18.3	43.6	1.0	12.9
INDUSTRY 3552, TEXTILE MACHINERY												
Total	-	**638**	**25.9**	**300.5**	**18.3**	**36.3**	**185.0**	**539.4**	**388.9**	**950.0**	**32.2**	**233.3**
Establishments with an average of—												
1 to 4 employees	E7	193	0.4	4.2	0.3	0.5	2.6	8.5	6.2	15.1	0.4	3.7
5 to 9 employees	E5	112	0.7	8.5	0.5	1.1	5.3	16.4	11.9	28.3	0.9	5.6
10 to 19 employees	E1	116	1.6	18.9	1.1	2.2	10.9	33.3	24.0	56.4	1.3	10.1
20 to 49 employees	E1	111	3.4	38.0	2.5	4.8	22.9	73.3	56.9	129.2	3.6	25.5
50 to 99 employees	-	53	3.6	44.8	2.6	5.3	26.3	76.3	56.8	133.3	5.2	29.6
100 to 249 employees	-	36	5.6	62.5	3.7	7.4	37.6	127.0	96.8	229.3	7.3	67.0
250 to 499 employees	-	9	2.9	32.1	2.1	4.1	20.2	46.1	37.0	86.6	3.8	26.8
500 to 999 employees	-	5	4.2	49.3	3.0	5.8	35.8	83.0	52.5	147.7	3.5	34.1
1,000 to 2,499 employees	-	3	3.5	42.2	2.3	5.0	23.3	75.5	47.0	124.1	6.1	30.9
Covered by administrative records[2]	E0	236	0.9	9.5	0.7	1.2	5.8	18.0	12.5	30.5	0.9	7.5
INDUSTRY 3553, WOODWORKING MACHINERY												
Total	-	**301**	**10.3**	**131.2**	**7.4**	**14.7**	**81.9**	**317.8**	**276.0**	**585.6**	**13.8**	**111.6**
Establishments with an average of—												
1 to 4 employees	E8	105	0.2	2.0	0.2	0.2	1.2	4.6	3.8	8.9	1.0	1.7
5 to 9 employees	E8	36	0.2	2.7	0.2	0.3	1.7	6.2	4.8	11.1	0.4	2.0
10 to 19 employees	E4	55	0.7	8.9	0.5	1.2	5.4	18.1	13.8	31.9	1.0	5.5
20 to 49 employees	-	58	1.9	25.4	1.4	2.6	15.2	58.3	43.5	99.5	1.9	18.5
50 to 99 employees	-	22	1.5	21.0	1.1	2.0	12.9	39.1	38.3	77.1	2.1	12.8
100 to 249 employees	-	21	(5.8)	(71.3)	(4.2)	(8.3)	(45.4)	(191.5)	(171.8)	(357.2)	(7.4)	(71.1)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	144	0.7	7.8	0.5	1.0	4.9	17.1	13.3	30.4	1.2	5.8
INDUSTRY 3554, PAPER INDUSTRIES MACHINERY												
Total	-	**213**	**16.4**	**247.5**	**9.3**	**18.8**	**123.8**	**464.9**	**357.8**	**826.9**	**17.2**	**220.2**
Establishments with an average of—												
1 to 4 employees	E8	52	0.1	1.3	0.1	0.1	0.7	(S)	2.1	4.6	0.2	1.2
5 to 9 employees	E8	19	0.1	1.9	0.1	0.2	1.0	3.9	3.2	7.0	0.2	1.7
10 to 19 employees	E3	39	0.5	7.6	0.3	0.7	4.2	15.1	13.1	28.1	0.5	6.8
20 to 49 employees	-	42	1.4	19.5	1.0	1.9	11.6	39.2	25.0	62.6	2.4	13.4
50 to 99 employees	-	23	1.7	26.2	1.1	2.1	13.8	44.1	33.3	80.7	2.7	15.7
100 to 249 employees	-	23	3.5	53.6	2.1	4.4	28.5	97.9	72.1	162.8	3.1	43.4
250 to 499 employees	-	8	2.7	38.5	1.6	3.3	21.2	73.2	46.9	118.9	3.4	31.5
500 to 999 employees	-	5	(6.3)	(98.9)	(3.1)	(6.1)	(42.7)	(197.0)	(162.1)	(362.1)	(4.7)	(106.4)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	70	0.4	5.7	0.2	0.5	2.9	11.1	9.3	20.3	0.5	5.4
INDUSTRY 3555, PRINTING TRADES MACHINERY												
Total	-	**595**	**25.5**	**369.2**	**15.6**	**31.7**	**192.9**	**793.6**	**573.2**	**1 350.9**	**47.8**	**355.4**
Establishments with an average of—												
1 to 4 employees	E8	184	0.3	4.4	0.2	0.4	2.1	3.6	6.6	15.2	0.4	3.6
5 to 9 employees	E5	107	0.7	10.1	0.4	0.9	5.1	19.7	14.1	33.5	0.9	6.8
10 to 19 employees	E1	105	1.5	19.6	1.0	1.8	10.1	40.0	29.1	68.1	1.6	12.3
20 to 49 employees	E1	106	3.1	41.8	2.1	4.1	23.8	83.3	60.3	145.6	4.1	22.6
50 to 99 employees	-	46	3.3	45.7	2.3	4.3	26.4	88.1	67.3	154.8	4.3	35.4
100 to 249 employees	-	23	3.5	51.5	1.9	3.9	24.7	98.3	61.6	158.7	4.2	43.7
250 to 499 employees	-	15	5.2	80.6	3.0	6.1	39.0	181.5	169.1	351.9	17.0	104.0
500 to 999 employees	-	8	(7.8)	(115.6)	(4.8)	(10.3)	(61.6)	(279.0)	(165.1)	(423.1)	(15.3)	(127.1)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	212	0.7	9.5	0.4	0.8	4.7	18.1	13.9	32.0	0.9	7.7
INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.												
Total	-	**1 600**	**70.4**	**1 043.3**	**44.0**	**88.5**	**572.6**	**2 096.1**	**1 593.4**	**3 622.0**	**86.8**	**888.6**
Establishments with an average of—												
1 to 4 employees	E7	464	0.8	10.8	0.6	1.0	5.8	22.2	20.0	43.9	1.1	9.9
5 to 9 employees	E5	292	2.0	27.7	1.3	2.6	15.0	51.5	43.4	94.5	2.2	19.3
10 to 19 employees	E2	297	4.1	55.6	2.7	5.2	30.9	104.7	88.4	192.0	3.7	34.9
20 to 49 employees	E1	278	8.8	121.4	5.8	11.7	68.1	241.1	188.9	424.9	11.3	79.7
50 to 99 employees	-	131	9.2	131.2	6.0	12.3	76.1	282.8	235.6	506.4	15.3	111.0
100 to 249 employees	-	79	12.1	167.1	7.9	16.2	99.3	353.5	273.8	614.4	17.7	154.7
250 to 499 employees	-	32	10.9	169.8	6.5	12.6	89.4	356.4	271.1	615.1	13.5	168.7
500 to 999 employees	-	21	14.3	224.5	9.1	18.0	123.7	411.6	324.6	710.4	16.0	227.6
1,000 to 2,499 employees	-	6	8.2	135.4	4.1	9.0	64.3	272.2	147.6	420.4	6.0	82.7
Covered by administrative records[2]	E0	551	2.2	30.8	1.5	2.8	16.7	62.3	50.9	113.2	2.5	26.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3551	**Food products machinery:**										
	Entire industry	740	36.3	522.1	22.8	45.4	292.6	1 056.4	765.3	1 786.8	46.9
	Establishments with 75 percent specialization or more	679	29.9	429.0	18.9	37.5	241.8	874.4	652.9	1 490.5	41.6
35511	Dairy and milk products plant machinery:										
	Establishments with this product class primary	29	2.3	32.2	1.7	3.5	21.4	67.3	67.3	132.3	2.5
	Establishments with 75 percent specialization or more in class	21	1.1	15.2	0.8	1.7	9.5	42.4	45.4	87.0	1.3
35512	Commercial food products machinery:										
	Establishments with this product class primary	104	8.6	118.7	5.2	10.7	66.0	230.0	189.5	411.5	9.7
	Establishments with 75 percent specialization or more in class	83	6.0	84.0	3.7	7.8	47.5	162.6	141.5	298.6	7.7
35513	Industrial food products machinery:										
	Establishments with this product class primary	131	10.6	153.0	6.6	12.6	83.7	295.5	208.6	500.7	11.9
	Establishments with 75 percent specialization or more in class	106	7.8	112.6	5.0	9.7	63.6	207.8	164.4	368.5	9.2
35514	Packing, packaging, and bottling machinery:										
	Establishments with this product class primary	107	11.4	173.0	7.0	14.1	95.3	376.5	236.5	587.0	19.0
	Establishments with 75 percent specialization or more in class	81	7.7	117.3	4.7	9.3	65.0	265.6	176.3	417.2	16.2
3552	**Textile machinery:**										
	Entire industry	638	25.9	300.5	18.3	36.3	185.0	539.4	388.9	950.0	32.2
	Establishments with 75 percent specialization or more	605	22.6	262.1	15.7	31.2	158.9	490.9	352.0	849.2	29.5
35521	Textile machinery, except parts and attachments:										
	Establishments with this product class primary	138	10.6	130.9	7.5	15.0	79.8	243.2	200.6	451.2	14.7
	Establishments with 75 percent specialization or more in class	88	4.6	57.9	3.2	6.5	35.0	114.6	93.5	207.8	8.4
35522	Textile machinery parts and attachments:										
	Establishments with this product class primary	172	12.7	140.4	8.9	17.6	87.6	238.5	150.0	403.2	13.7
	Establishments with 75 percent specialization or more in class	139	6.6	67.1	4.9	9.7	43.0	120.1	81.1	201.7	6.5
3553	**Woodworking machinery:**										
	Entire industry	301	10.3	131.2	7.4	14.7	81.9	317.8	276.0	585.6	13.8
	Establishments with 75 percent specialization or more	285	9.2	117.4	6.6	13.2	73.0	287.1	257.4	536.0	12.1
35531	Woodworking machinery, except home workshop:										
	Establishments with this product class primary	105	6.6	91.1	4.5	8.9	54.5	194.3	149.5	335.4	7.2
	Establishments with 75 percent specialization or more in class	92	5.1	72.5	3.5	7.0	42.7	156.8	127.1	276.1	5.3
35532	Woodworking machinery for home workshops:										
	Establishments with this product class primary	5	2.2	23.1	1.8	3.5	16.7	84.1	97.8	181.7	3.6
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3554	**Paper industries machinery:**										
	Entire industry	213	16.4	247.5	9.3	18.8	123.8	464.9	357.8	826.9	17.2
	Establishments with 75 percent specialization or more	174	10.3	158.0	5.8	11.8	76.5	310.4	228.5	538.9	11.6
3555	**Printing trades machinery:**										
	Entire industry	595	25.5	369.2	15.6	31.7	192.9	793.6	573.2	1 350.9	47.8
	Establishments with 75 percent specialization or more	552	23.1	336.0	13.9	28.4	172.5	730.7	532.5	1 244.0	43.7
35551	Printing presses, lithographic:										
	Establishments with this product class primary	27	5.9	93.8	3.9	7.9	55.1	212.8	148.3	352.9	11.6
	Establishments with 75 percent specialization or more in class	21	3.2	56.4	2.2	4.7	33.1	145.0	98.1	240.6	(D)
35552	Printing presses, other than lithographic:										
	Establishments with this product class primary	36	2.9	40.0	1.9	3.8	23.5	93.7	90.0	177.5	2.5
	Establishments with 75 percent specialization or more in class	29	1.2	14.5	0.7	1.4	8.1	32.6	30.0	61.0	(D)
35553	Typesetting machinery and equipment:										
	Establishments with this product class primary	21	5.6	81.6	2.4	5.4	27.1	192.6	131.6	318.3	17.5
	Establishments with 75 percent specialization or more in class	18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35554	Bindery machinery and equipment:										
	Establishments with this product class primary	12	0.9	12.8	0.5	1.2	6.6	34.8	21.6	55.7	2.4
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35555	Other printing trades machinery:										
	Establishments with this product class primary	173	7.9	110.3	5.4	10.7	64.5	208.4	139.9	349.3	10.8
	Establishments with 75 percent specialization or more in class	133	5.6	76.9	3.7	7.4	44.0	151.5	94.5	245.4	7.0
3559	**Special industry machinery, n.e.c.:**										
	Entire industry	1 600	70.4	1 043.3	44.0	88.5	572.6	2 096.1	1 593.4	3 622.0	86.8
	Establishments with 75 percent specialization or more	1 453	54.0	784.5	34.2	68.0	433.3	1 596.3	1 226.6	2 769.7	66.2
35591	Chemical manufacturing industries machinery:										
	Establishments with this product class primary	70	9.8	165.6	5.4	11.3	80.7	344.6	212.3	546.0	15.0
	Establishments with 75 percent specialization or more in class	51	5.0	84.1	2.6	5.2	36.1	179.5	98.3	288.3	8.3
35592	Foundry machinery and equipment:										
	Establishments with this product class primary	72	5.5	79.8	3.4	7.2	44.2	187.1	126.1	305.1	5.5
	Establishments with 75 percent specialization or more in class	60	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35593	Plastics working machinery and equipment:										
	Establishments with this product class primary	115	12.7	199.7	7.7	15.4	110.2	394.5	342.3	719.8	12.2
	Establishments with 75 percent specialization or more in class	87	8.2	127.5	5.0	10.2	71.7	252.9	241.3	486.5	9.0
35594	Rubber working machinery and equipment:										
	Establishments with this product class primary	38	4.1	58.6	2.8	5.5	36.0	95.5	71.5	166.2	4.2
	Establishments with 75 percent specialization or more in class	21	2.2	30.7	1.5	2.9	18.8	54.8	41.8	93.4	2.6
35595	Other special industry machinery and equipment:										
	Establishments with this product class primary	489	31.2	446.3	20.1	40.0	249.2	880.8	690.6	1 540.9	42.2
	Establishments with 75 percent specialization or more in class	414	26.2	369.6	17.1	33.8	211.0	731.1	575.0	1 281.3	33.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.
[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3551	Food products machinery....1977..	1,786.8	1,447.4	155.4	184.0	90	1,576.2	1,447.4	128.8	92
	1972..	1,000.1	772.2	88.6	139.3	90	867.2	772.2	95.0	89
	1967..	830.2	594.9	83.7	151.6	88	689.9	594.9	95.0	86
3552	Textile machinery....1977..	950.0	809.0	61.2	79.8	93	857.1	809.0	48.1	94
	1972..	823.7	709.1	42.6	72.0	94	738.1	709.1	29.0	96
	1967..	711.7	617.1	40.5	54.1	94	652.6	617.1	35.5	95
3553	Woodworking machinery....1977..	585.6	517.7	32.8	35.1	94	547.3	517.7	29.6	95
	1972..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3554	Paper industries machinery....1977..	826.9	625.1	119.2	82.6	84	698.3	625.1	73.2	90
	1972..	447.8	329.7	60.0	58.1	85	381.4	329.7	51.7	86
	1967..	551.4	444.4	37.0	70.0	92	515.1	444.4	70.7	86
3555	Printing trades machinery....1977..	1,350.9	1,182.2	37.9	130.8	97	1,287.3	1,182.2	105.1	92
	1972..	823.5	670.4	18.9	134.2	97	736.6	670.4	66.2	91
	1967..	752.3	619.2	15.8	117.3	98	656.0	619.2	36.8	94
3559	Special industry machinery, n.e.c....1977..	3,622.0	2,950.2	385.3	286.5	88	3,465.2	2,950.2	515.0	85
	1972..	2,616.9	1,923.6	421.4	271.9	82	2,295.9	1,852.4	443.5	81
	1967..	1,833.0	1,349.7	287.9	195.4	82	1,670.3	1,349.7	320.5	81

n.e.c. Not elsewhere classified.
[1]Data prior to 1977 are not comparable; see Description of Industries in text.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Food products machinery (SIC 3551)	Textile machinery (SIC 3552)	Woodworking machinery (SIC 3553)	Paper industries machinery (SIC 3554)	Printing trades machinery (SIC 3555)	Special industry machinery, n.e.c. (SIC 3559)	Other industries
	Total	(X)	1,786.8	950.0	585.6	826.9	1,350.9	3,622.0	(X)
	Primary products	(X)	1,447.4	809.0	517.7	625.1	1,182.2	2,950.2	(X)
	Secondary products	(X)	155.4	61.2	32.8	119.2	37.9	385.3	(X)
	Miscellaneous receipts	(X)	184.0	79.8	35.1	82.6	130.8	286.5	(X)
3551-	Food products machinery	1,576.2	1,447.4	(D)	-	(D)	-	38.4	83.7
35511	Dairy and milk products plant machinery	128.5	117.2	-	-	-	-	(D)	(D)
35512	Commercial food products machinery	357.2	313.7	(D)	-	(D)	-	(D)	(D)
35513	Industrial food products machinery	452.0	415.6	(D)	-	(D)	-	5.0	30.9
35514	Packing, packaging, and bottling machinery	491.0	457.9	(D)	-	-	-	(D)	18.9
35510	Food products, machinery, n.s.k	147.5	143.0	-	-	(D)	-	(D)	2.8
3552-	Textile machinery	857.1	(D)	809.0	(D)	-	(D)	2.3	41.1
35521	Textile machinery, except parts and attachments	361.6	(D)	348.0	(D)	-	(D)	(D)	(D)
35522	Textile machinery parts and attachments	405.2	(D)	372.7	(D)	-	(D)	(D)	29.7
35520	Textile machinery, n.s.k	90.3	-	88.3	-	-	-	(D)	(D)
3553-	Woodworking machinery	547.3	-	-	517.7	-	-	-	29.6
35531	Woodworking machinery, excluding home workshop	334.6	-	-	313.7	-	-	-	20.9
35532	Woodworking machinery for home workshops	143.6	-	-	(D)	-	-	-	(D)
35530	Woodworking machinery, n.s.k	69.2	-	-	(D)	-	-	-	(D)
35540	Paper industries machinery	698.3	(D)	(D)	(D)	625.1	(D)	16.0	28.6
3555-	Printing trades machinery	1,287.3	(D)	(D)	(D)	(D)	1,182.2	1.1	76.8
35551	Printing presses, lithographic	290.9	(D)	(D)	-	(D)	282.0	(D)	(D)
35552	Printing presses, other than lithographic	121.3	(D)	(D)	(D)	(D)	108.1	(D)	(D)
35553	Typesetting machinery and equipment	252.8	-	-	-	-	252.8	(D)	(D)
35554	Bindery machinery and equipment	36.8	(D)	-	-	(D)	35.3	-	(D)
35555	Printing trades machinery, n.e.c	494.8	(D)	(D)	(D)	4.8	414.8	(D)	71.9
35550	Printing trades machinery, n.s.k	90.7	-	(D)	-	(D)	89.1	-	1.5
3559-	Special industry machinery, n.e.c	3,465.2	(D)	(D)	(D)	(D)	(D)	2,950.2	428.9
35591	Chemical manufacturing industries machinery	436.7	7.9	(D)	-	(D)	(D)	381.5	42.1
35592	Foundry machinery and equipment	319.2	(D)	(D)	-	(D)	-	275.6	40.6
35593	Plastics working machinery and equipment	669.6	(D)	1.0	(D)	47.3	(D)	574.4	44.7
35594	Rubber working machinery and equipment	158.1	5.6	(D)	-	(D)	-	144.2	7.7
35595	Special industry machinery and equipment, n.e.c	1,565.3	(D)	(D)	-	(D)	(D)	1,266.7	285.6
35590	Special industry machinery, n.e.c., n.s.k	316.3	-	-	(D)	(D)	-	307.7	8.2
	Other shipments by 4-digit product group:								
3069-	Fabricated rubber products, n.e.c	(X)	-	-	(D)	-	(D)	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	-	(D)	(D)	(X)
3291-	Abrasive products	(X)	-	-	-	-	(D)	(D)	(X)
3312-	Blast furnaces and steel mills	(X)	-	-	-	-	-	(D)	(X)
3321-	Gray iron foundries	(X)	(D)	7.1	(D)	5.0	-	(D)	(X)
3423-	Hand and edge tools, n.e.c	(X)	(D)	-	-	(D)	(D)	(D)	(X)
3433-	Heating equipment, except electric	(X)	-	-	-	(D)	-	(D)	(X)
3443-	Fabricated plate work (boiler shops)	(X)	(D)	(D)	(D)	(D)	-	1.9	(X)
3444-	Sheet metal work	(X)	(D)	(D)	-	-	-	(D)	(X)
3449-	Miscellaneous metal work	(X)	(D)	-	-	-	-	(D)	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	-	(D)	(D)	-	(D)	(X)
3494-	Valves and pipe fittings	(X)	(D)	-	-	-	-	(D)	(X)
3499-	Fabricated metal products, n.e.c	(X)	(D)	(D)	-	(D)	(D)	(D)	(X)
3511-	Turbines and turbine generator sets	(X)	-	-	-	-	-	(D)	(X)
3523-	Farm machinery and equipment	(X)	(D)	(D)	(D)	-	-	(D)	(X)
3524-	Lawn and garden equipment	(X)	-	-	(D)	-	-	-	(X)
3531-	Construction machinery	(X)	-	-	(D)	-	-	2.7	(X)
3532-	Mining machinery	(X)	(D)	(D)	-	-	-	(D)	(X)
3534-	Elevators and moving stairways	(X)	(D)	-	-	(D)	-	-	(X)
3535-	Conveyors and conveying equipment	(X)	(D)	-	-	(D)	-	9.1	(X)
3536-	Hoists, cranes, and monorails	(X)	(D)	(D)	-	(D)	-	(D)	(X)
3541-	Machine tools, metal cutting types	(X)	(D)	-	(D)	(D)	(D)	(D)	(X)
3542-	Machine tools, metal forming types	(X)	(D)	-	-	(D)	-	12.0	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	(D)	(D)	(D)	(D)	(D)	15.7	(X)
3549-	Metalworking machinery, n.e.c	(X)	-	-	(D)	.1	-	(D)	(X)
3563-	Air and gas compressors	(X)	-	-	-	-	-	(D)	(X)
3564-	Blowers and fans	(X)	(D)	-	-	(D)	-	(D)	(X)
3566-	Speed changers, drives, and gears	(X)	-	-	-	-	-	(D)	(X)
3567-	Industrial furnaces and ovens	(X)	(D)	(Z)	-	-	-	(D)	(X)
3569-	General industrial machinery, n.e.c	(X)	34.7	.8	-	(D)	(D)	(D)	(X)
3574-	Calculating and accounting machines	(X)	-	-	-	(D)	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Food products machinery (SIC 3551)	Textile machinery (SIC 3552)	Woodworking machinery (SIC 3553)	Paper industries machinery (SIC 3554)	Printing trades machinery (SIC 3555)	Special industry machinery, n.e.c. (SIC 3559)	Other industries
	Other shipments by 4-digit product group--Con.								
3572	Office machines, n.e.c. and typewriters	(X)	-	(D)	-	-	(D)	(D)	(X)
3585-	Refrigeration and heating equipment	(X)	(D)	(D)	-	-	-	(D)	(X)
3589-	Service industry machinery, n.e.c	(X)	(D)	-	-	(D)	(D)	3.9	(X)
3599-	Machinery, except electrical, n.e.c	(X)	(D)	(D)	(D)	(D)	(D)	(D)	(X)
3623-	Welding apparatus, electric	(X)	-	-	(D)	-	-	-	(X)
3629-	Electrical industrial apparatus, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3636-	Sewing machines	(X)	(D)	-	-	-	-	-	(X)
3662-	Radio and television communication equipment	(X)	-	-	-	-	-	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	-	-	-	-	-	(D)	(X)
3743-	Railroad equipment	(X)	-	-	-	(D)	-	(D)	(X)
3823-	Process control instruments	(X)	(D)	-	-	(D)	-	(D)	(X)
3841-	Surgical and medical instruments	(X)	-	(D)	-	-	-	-	(X)
	Miscellaneous receipts:								
99300 00	Contract work	(X)	6.4	7.5	5.8	9.8	6.7	27.2	(X)
99980 13	Sales of scrap and refuse	(X)	1.0	.2	(D)	(D)	.1	1.3	(X)
99980 31	Receipts for installation or construction	(X)	8.5	5.4	(D)	(D)	1.9	12.0	(X)
99980 41	Receipts for research and developmental work	(X)	(X)	(X)	(X)	(X)	(X)	1.7	(X)
99980 61	Receipts for repair work	(X)	14.5	6.1	4.0	14.5	13.9	26.9	(X)
99980 98	Other miscellaneous receipts	(X)	52.3	11.2	1.5	13.2	6.2	29.0	(X)
99989 00	Resales	(X)	101.4	49.4	23.3	44.2	102.0	188.3	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3551-	3496 Miscellaneous fabricated wire products	(D)
	3523 Farm machinery and equipment	(D)
	3589 Service industry machinery, n.e.c	(D)
3552-	3041 Rubber and plastic hose and belting	(D)
	3714 Motor vehicle parts and accessories	(D)
3553-	3541 Machine tools, metal cutting types	(D)
3554-	3443 Fabricated plate work (boiler shops)	(D)
3555-	3011 Tires and inner tubes	(D)
	3041 Rubber and plastics hose and belting	(D)
	3069 Fabricated rubber products, n.e.c	(D)
	3861 Photographic equipment and supplies	(D)
3559-	3291 Abrasive products	(D)
	3357 Nonferrous wire drawing and insulating	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3483 Ammunition, except for small arms, n.e.c	(D)
	3523 Farm machinery and equipment	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3559-	3532 Mining machinery	(D)
	3535 Conveyors and conveying equipment	(D)
	3541 Machine tools, metal cutting types	(D)
	3542 Machine tools, metal forming types	7.7
	3544 Special dies, tools, jigs, and fixtures	(D)
	3547 Rolling mill machinery	(D)
	3549 Metalworking machinery, n.e.c	(D)
	3561 Pumps and pumping equipment	(D)
	3569 General industrial machinery, n.e.c	(D)
	3599 Machinery, except electrical, n.e.c	(D)
	3661 Telephone and telegraph apparatus	44.2
	3662 Radio and television communication equipment	(D)
	3699 Electrical equipment and supplies	(D)
	3724 Aircraft engines and engine parts	(D)
	3728 Aircraft equipment, n.e.c	(D)
	3731 Ship building and repairing	(D)
	3761 Guided missiles and space vehicles	(D)
	3861 Photographic equipment and supplies	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] [2]		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
	FOOD PRODUCTS MACHINERY						
3551- --	Total	.....	(NA)	(X)	1,576.2	(X)	867.2
35511 --	Dairy and milk products plant machinery and equipment, except bottling and packaging machinery	.....	(NA)	(X)	128.5	(X)	57.4
35511 15	Washing and sterilizing equipment	Number	4	(S)	2.7	(S)	8.0
35511 43	Pasteurizers		4	(S)	8.9		
35511 51	Homogenizers		3				
35511 73	Ice cream freezers		8	*20,088	62.4	(S)	22.6
35511 83	Butter and cheese processing plant machinery and equipment		6	499	8.6	(S)	4.8
35511 91	Dry milk processing plant machinery and equipment		5	(S)	7.6	(S)	1.4
35511 98	Other dairy and milk products processing plant machinery and equipment, excluding packaging machinery, but including cream separators (capacity over 1,500 pounds per hour)	Number	21	(S)	34.1	(S)	18.4
35511 00	Dairy and milk products plant machinery and equipment, except bottling and packaging machinery, n.s.k	.....	(NA)	(X)	4.2	(X)	2.2
35512 --	Commercial food products machinery, except wrapping machinery	.....	(NA)	(X)	357.2	(X)	185.0
	Bakery machinery and equipment:						
35512 61	Dough mixers	Number	10	*787	7.8	274	5.8
	Bake ovens:						
35512 71	Traveling tray		5	*31	5.5	(S)	8.6
35512 75	Other		7	425	8.6		
35512 81	Slicing machinery		3	740	1.0	1,075	.9
35512 87	Continuous breadmaking equipment		6	53	5.2	(S)	6.7
35512 91	Other bakery machinery and equipment, except packaging machinery and wrapping machinery	Number	28	5,987	59.1	(S)	30.3
	Commercial food products equipment, except bakery equipment:						
35512 11	Slicers	Thousands	19	*45.2	36.3	28.8	18.8
35512 21	Choppers, grinders, cutters, dicers, and similar machinery		20	*44.1	44.8	(S)	21.5
35512 31	Mixers and whippers, except drink mixers		13	17.1	45.5	16.4	20.4
35512 41	Other commercial food preparation machinery, including tenderizers (power driven)		36	(X)	62.1	(X)	35.0
35512 51	Parts and attachments for commercial food preparation machinery	Thousands	28	(X)	52.8	(X)	21.8
35512 00	Commercial food products machinery, except wrapping machinery, n.s.k	.....	(NA)	(X)	28.5	(X)	15.2
35513 --	Industrial food products machinery, except packing and bottling machinery	.....	(NA)	(X)	452.0	(X)	296.2
35513 13	Meat and poultry processing and preparation machinery and equipment (killing, dehairing, stuffing, cooking, rendering, etc.)	.....	31	(X)	80.8	(X)	59.7
	Fruit and vegetable canning machinery:						
35513 23	Preparation machinery	Number	19	**4,366	53.8	(S)	43.0
35513 29	All other fruit and vegetable canning machinery, excluding except packing and packaging machinery	.....	11	(X)	18.3	(X)	16.8
35513 39	Flour and grainmill machinery, except packing and packaging machinery	.....	15	(X)	26.3	(X)	16.0
35513 49	Sugarplant machinery, including cane and beet mills crushers, pulverizers, crystallizers, granulators, etc., packing and packaging machinery	.....	6	(X)	29.8	(X)	15.4
35513 51	Fish and shellfish processing machinery (skinning, scaling, shelling, fileting, etc.)	Number	3	159	1.6	(S)	.5
35513 54	Oilseed crushing and extracting machinery and equipment		2	522	11.0	(S)	79.7
35513 55	Vegetable oil processing machinery and equipment	Number	2				
35513 58	Other industrial food products machinery, except packing and packaging machinery	.....	32	(X)	91.0		
35513 67	Bottle washers and sterilizers	Number	9	220	25.5	114	13.0
35513 83	Parts and attachments for industrial food products machinery, except bottling, packing, and packaging machinery	.....	35	(X)	84.1	(X)	29.0
35513 00	Other industrial products machinery, except packing and bottling machinery and parts and attachments, n.s.k	.....	(NA)	(X)	29.8	(X)	23.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] [2]		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
3551- --	FOOD PRODUCTS MACHINERY--Con.						
35514 --	Packing, packaging, and bottling machinery for industrial food products[4]	.....	(NA)	(X)	491.0	(X)	232.1
35514 15	Cartoning machinery	Number	10	**514	23.6		
35514 22	Thermoforming machinery		2	(D)	([5])		
35514 26	Bag opening, filling, and closing machinery		12	2,005	25.0		
35514 28	Forming-filling-sealing machinery (must perform all 3 functions)		5	943	72.4		
35514 31	Wrapping, banding, bundling, and fastening machinery (including shrink wrappers and shrink tunnels)		14	8,527	38.6		
35514 41	Vacuum and gas packaging machinery	Number	2	(D)	([5])		
35514 51	Filling machinery, including filling machinery which also cap, seal, lid, or close	Number	20	1,328	55.3	(S)	193.1
35514 63	Labeling and code making machinery		8	*813	13.1		
35514 71	Case forming, opening, loading, unloading, and sealing machinery		11	*1,376	20.9		
35514 81	Capping, sealing, lidding machinery, including can sealing machinery		5	299	7.9		
35514 89	Other, including beverage bottling carbonators and combinations of machinery classified in more than one of the above	Number	29	(S)	[5]109.2		
35514 91	Parts for bottling, packing, and packaging machinery	.....	45	(X)	101.5	(X)	39.0
35514 00	Packing, packaging, and bottling machinery for industrial food products, n.s.k.	.....	(NA)	(X)	23.5	(X)	-
35510 00	Food products machinery, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	103.9	(X)	81.0
35510 02	Food products machinery, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	43.6	(X)	15.5
	TEXTILE MACHINERY						
3552- --	Total	.....	(X)	(X)	857.1	(X)	738.1
35521 --	Textile machinery: Fiber-to-fabric textile machinery, except parts, attachments, and accessories	.....	(X)	(X)	361.6	(X)	373.8
35521 15	Cleaning and opening machinery, including picker, garnetting, and other	Thousands	10	**3.6	17.6	2.6	11.3
35521 25	Carding and combing machinery		6	1.1	22.2	1.0	16.8
35521 36	Drawing and roving frames		4	.5	16.7		
	Spinning frames:						
35521 42	Frames		3	[6].5	[6]24.4	1.2	19.0
35521 46	Spindles		(X)	[7]169.7	(X)	322.4	(X)
	Twisting frames:						
35521 47	Frames		2	([6])	([6])	.8	12.6
35521 48	Spindles		(X)	([7])	(X)	220.4	(X)
	Yarn preparing machinery:						
35521 51	Winding machinery (skein, bobbin, quill, cone, etc.)	Thousands	13	9.7	36.0	(S)	21.9
35521 53	Other yarn preparing machinery (beaming, warping, warp tying, wrap drawing in, slashing, etc.)	.....	5	(X)	22.3	(X)	23.8
35521 55	Other fiber-to-fabric machinery	Thousands	5	(S)	11.3	(X)	12.1
	Fabric machinery, except parts, attachments, and accessories:						
35521 67	Weaving machinery, including machinery for broad and narrow fabrics		5	2.7	32.1	(X)	([8])
35521 71	Knitting machinery		7	1.5	15.3	5.3	73.8
35521 81	Other fabric machinery, including lace, embroidery, braiding, and tufting machinery and hand looms	Thousands	12	**8.9	18.5	(S)	[8]34.2
35521 82	Bleaching, mercerizing, and dyeing machinery	.....	8	(X)	17.2		
35521 83	Printing machinery	.....	1	(X)	29.4	(X)	66.4
35521 86	Finishing machinery	.....	23				
35521 87	Machinery for drying stocks, yarns, cloth, etc	.....	12	(X)	15.1	(X)	15.9
35521 98	Other textile industry machinery, n.e.c., except parts, attachments, and accessories	.....	46	(X)	60.8	(X)	54.7
35521 00	Textile machinery, n.s.k	.....	(X)	(X)	22.7	(X)	11.3

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] [2]		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
	TEXTILE MACHINERY--Con.						
35522 --	Parts and attachments for textile machinery	.....	(X)	(X)	405.2	(X)	305.7
35522 11	Textile machinery turnings and shapes (bobbins, shuttles, spools, picker sticks, etc.)	.....	23	(X)	50.1	(X)	52.8
	Parts and attachments:						
	Fiber-to-fabric machinery:						
35522 22	Card clothing	Mil. sq. ft...	5	(S)	26.4	(S)	22.3
35522 31	Other fiber-to-fabric machinery, except card cloth	.....	17	(X)	46.7	(X)	28.6
35522 43	Weaving machinery, including broad and narrow fabric	.....	21	(X)	108.1	(X)	[9]63.0
35522 45	Knitting machinery, excluding needles	.....	12	(X)	18.7	(X)	23.9
35522 55	Fabric machinery, except weaving machinery and knitting machinery	.....	3	(X)	.6	(X)	([9])
35522 72	Bleaching, mercerizing, and dyeing machinery	.....	7	(X)	7.5		
35522 73	Printing machinery	.....	4	(X)	1.7	(X)	13.0
35522 74	Finishing machinery	.....	15	(X)	8.8		
35522 98	Other textile industries machinery	.....	80	(X)	100.4	(X)	91.9
35522 00	Parts and attachments for textile machinery, n.s.k.	.....	(X)	(X)	36.2	(X)	10.2
35520 00	Textile machinery, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	56.9	(X)	40.4
35520 02	Textile machinery, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	33.4	(X)	18.2
	WOODWORKING MACHINERY						
3553- --	Total	.....	(NA)	(X)	547.3	(X)	[10]339.5
35531 --	Woodworking machinery, excluding home workshop and power-driven handtools	.....	(NA)	(X)	334.6	(X)	[10]270.4
35531 12	Sawmill equipment	.....	39	(X)	102.8	(X)	63.4
35531 62	Sawing machines, except sawmill equipment	Thousands.....	17	*96.0	36.1	10.1	20.0
35531 17	Veneer, plywood, particle board, and hardboard-making machinery		15	(S)	34.4		
35531 73	Straight line machinery, including jointers, moulders, planers, sanders, surfacers, trimmers, etc		19	*11.2	25.1		
35531 75	Boring machinery, carving machinery, dovetailers, mortisers, routers, shapers, and tenoners		12	4.0	10.3	(S)	97.0
35531 98	Other woodworking machinery, including lathes, drilling machines, jointers, planers, and shapers	Thousands.....	23	(S)	34.2		
	Parts, attachments, and accessories for woodworking machinery, excluding saw blades:						
35531 85	Cutting tools other than saw blades	.....	11	(X)	33.5	(X)	84.9
35531 87	All other parts, attachments, and accessories	.....	36	(X)	49.3		
35531 00	Woodworking machinery, excluding home workshop and power-driven handtools, n.s.k.	.....	(NA)	(X)	8.9	(X)	5.1
35532 --	Woodworking machinery designed primarily for home workshops, except power-driven handtools	.....	(NA)	(X)	143.6	(X)	51.5
35532 21	Saws, including circular	Thousands.....	4	717.1	110.4	284.9	32.4
35532 81	Parts, attachments, and accessories for machine tools and woodworking machines designed primarily for home workshops, etc. excluding sawblades		4	(X)	8.0	(X)	6.6
35532 98	Other woodworking machinery, designed primarily for home workshops, including lathes, drilling machines, jointers, planers, shapers, etc	Thousands.....	6	235.4	25.2	(X)	12.5
35532 00	Woodworking machinery designed primarily for home workshops, n.s.k.	.....	-	(X)	-	(X)	-
35530 00	Woodworking machinery, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	38.8	(X)	8.0
35530 02	Woodworking machinery, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	30.4	(X)	9.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] [2]		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
	PAPER INDUSTRIES MACHINERY						
3554- --	Total		(X)	(X)	698.3	(X)	381.4
	Paper industries machinery, new:						
35540 11	Wood preparation equipment, including barkers, chippers, knotters, splitters, chipscreens, etc		7	(X)	24.5	(X)	15.2
	Pulp mill machinery:						
35540 21	Grinders (for groundwood)	Number	3	*136	8.2		
35540 25	Deckers, thickeners, wet lap machines, bleaching equipment, pulp screens, washers, and save-alls		5			(S)	30.9
35540 29	Other pulpmill machinery, including digesters and recovery room equipment		6	(X)	66.6		
	Papermill machinery:						
35540 31	Beaters, jordans, and other stock preparation		5	(X)	17.5	(X)	18.9
	Paper machines:						
35540 45	Calenders, including supercalenders	Number	7	(S)	5.9	(S)	3.9
35540 41	Fourdriniers, including yankee machines		4	*551	24.3	(11)	(11)
35540 43	Cylinder-type machines		4			39	1.4
35540 49	Other paper machinery, including forming and finishing machinery, but excluding calenders		14	**895	51.6	(S)	11 42.2
	Paper and paperboard converting equipment:						
35540 51	Bagmaking machines, including shipping sack machines and envelope making machines		8	*246	16.8	(S)	8.3
35540 53	Corrugated boxmaking machines	Number	11	580	47.1	1,007	27.1
35540 54	Box, carton, and shipping container making machines, except corrugated box machines		7	(X)	31.5	(X)	27.2
35540 56	Toilet roll and napkin making machines	Number	2				
35540 59	Other paper and paperboard converting equipment, including drum, can, and tube making machines		38	(NA)	166.3	(NA)	79.5
35540 73	Rebuilt machinery, including fourdriniers, yankees, cylinders, and forming machines		6				
35540 81	Parts and attachments for paper industries machinery		69	(X)	183.3	(X)	100.0
35540 00	Paper industries machinery, n.s.k., typically for establishments with 5 employees or more (see note)		(X)	(X)	34.4	(X)	21.1
35540 02	Paper industries machinery, n.s.k., typically for establishments with less than 5 employees (see note)		(X)	(X)	20.3	(X)	5.7
	PRINTING TRADES MACHINERY						
3555- --	Total		(X)	(X)	1,287.3	(X)	736.6
35551 --	Printing presses, lithographic		(X)	(X)	290.9	(X)	156.0
	Sheet-fed:						
35551 23	Single color	Complete presses	6	*275	4.5	254	5.3
35551 26	Multicolor, including perfecting, 2 and 3 color		5	**140	8.8	97	9.9
35551 30	Multicolor, including perfecting, 4 color and over		7	*184	23.2	138	29.0
	Web-fed (roll-fed):						
35551 33	Business forms presses		6	409	53.4	484	27.9
35551 32	Newspaper		5	883	187.3	609	47.8
35551 35	Commercial, including heat set		7			132	25.9
35551 36	All other	Com. presses	4	**11	3.8	(S)	.9
35551 00	Printing presses, lithographic, n.s.k.		(X)	(X)	9.9	(X)	9.3
35552 --	Printing presses, other than lithographic		(X)	(X)	121.3	(X)	90.2
	Letterpress (typographical, relief):						
35552 16	Sheet-fed, including platen, cylinder, and rotary types	Com. presses	3				
	Web-fed (roll-fed):						
35552 18	Commercial		2	289	29.4	428	46.2
35552 19	Newspaper		3				
35552 37	Gravure, sheet-fed and web-fed (roll-fed)		4	(S)	43.3	66	10.7
35552 38	Flexographic, sheet-fed and web-fed (roll-fed)		12			(S)	3.8
35552 41	Other printing presses, including metal decorating, proof, and rebuilt	Com. presses	19	(S)	41.0	(S)	25.8
35552 00	Printing presses, other than lithographic, n.s.k.		(X)	(X)	7.6	(X)	3.7
35553 --	Typesetting machinery and equipment, excluding justifying typewriters		(X)	(X)	252.8	(X)	104.1
35553 43	Photographic typesetting machinery, including integral computer	Number	11	11,876	198.8	8,745	82.7
35553 45	Keyboard input devices		5	2,020	11.4	2,170	6.0
35553 52	Hot metal typesetting machinery and matrices		3	(S)	8.4		
35553 55	Input/editing machinery		7	*5,684	32.5	(S)	15.4
35553 57	Other typesetting machinery, excluding cameras	Number	-	-	-		
35553 00	Typesetting machinery and equipment, n.s.k.		(X)	(X)	1.7	(X)	-

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] [2]		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
	PRINTING TRADES MACHINERY--Con.						
35554 --	Binding machinery and equipment, except paper cutting and collating, or gathering machinery	.....	(X)	(X)	36.8	(X)	33.5
35554 63	Saddle binding equipment	Number	3	422	25.9	(S)	33.5
35554 64	Perfect and hard case (edition) binding equipment	Number	2				
35554 65	Other binding machinery and equipment, n.e.c., including folding equipment	Number	10	7,820	8.7		
35554 00	Binding machinery and equipment, n.s.k.	.....	(X)	(X)	2.2	(X)	-
35555 --	Printing trades machinery, n.e.c., including parts and attachments for all printing trades machinery and equipment	.....	(X)	(X)	494.8	(X)	303.5
35555 62	Electrotyping and stereotyping machinery and equipment	Number	1				
35555 63	Automatic plate processors		-				
35555 64	Other printing industry pre-press preparatory equipment, including photo-composing equipment, etching equipment etc., but excluding typesetting equipment and cameras		6	(S)	13.4	(X)	15.2
35555 66	Paper cutting machinery		2	2,430	31.6	(X)	6.4
35555 67	Collating and/or gathering machinery (sold separately)	Number	6			(X)	16.5
35555 69	Engravers' materials and equipment, including metalplates, etc.	.....	9	(X)	11.9	(X)	21.2
35555 72	Roll covering, rubber and plastics, graphic arts	.....	22	(X)	78.1	(X)	49.3
35555 76	Printers' blankets	.....	10	(X)	40.4		
35555 75	Foundry type, rules, leads, slugs, borders, and ornaments	.....	1	(X)	(12)	(X)	1.9
35555 77	Lithographic plates	.....	4	(X)	16.0	(X)	(13)
35555 83	Parts, attachments, and accessories for printing presses (sold separately), including flying pasters, dryers, folders, and reels	.....	46	(X)	139.8	(X)	58.8
35555 85	Parts, attachments, and accessories for typesetting machinery (sold separately)	.....	6	(X)	42.9	(X)	18.3
35555 87	Parts, attachments, and accessories for bindery equipment (sold separately)	.....	8	(X)	7.3	(X)	11.7
35555 89	Parts, attachments, and accessories for other printing trades machinery and equipment (sold separately)	.....	22	(X)	27.2	(X)	7.9
35555 98	Other printing machinery and equipment, including platens (except typewriter)	.....	31	(X)	12 54.5	(X)	13 85.7
35555 00	Printing trades machinery, n.e.c. and parts and attachments for all printing trades machinery and equipment, n.s.k.	.....	(X)	(X)	31.7	(X)	10.6
35550 00	Printing trades machinery, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	58.7	(X)	31.5
35550 02	Printing trades machinery, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	32.0	(X)	17.8
	SPECIAL INDUSTRY MACHINERY, N.E.C.						
3559- --	Total	.....	(NA)	(X)	3,465.2	(X)	14 2,295.9
35591 --	Chemical manufacturing industries machinery, including parts:						
35591 11	Chemical manufacturing industries machinery, including parts	.....	107	(X)	436.7	(X)	212.5
35592 --	Foundry machinery and equipment, excluding patterns and molds	.....	(NA)	(X)	319.2	(X)	132.3
35592 21	Foundry pouring equipment, including ladles, crucibles, and pouring machines	.....	8	(X)	18.5	(X)	15 21.9
	Molding machines:						
35592 33	Green sand	.....	8	(X)	33.0	(X)	4.8
35592 35	Other	.....	5	(X)	8.7	(X)	(15)
35592 41	Foundry flasks	.....	4	(X)	5.8	(X)	3.5
35592 54	Blast cleaning machines (hydraulic, pneumatic, and airless)	Number	11	5,307	66.3	(X)	21.1
35592 42	Core-making machines	Number	8	(S)	23.7	(X)	75.3
35592 98	Other foundry machinery and equipment	.....	33	(X)	63.0		
35592 97	Parts for foundry machinery and equipment	.....	28	(X)	78.0		
35592 00	Foundry machinery and equipment, excluding patterns and molds, n.s.k.	.....	(NA)	(X)	22.2	(X)	5.7
35593 --	Plastics working machinery and equipment, excluding patterns and molds	.....	(NA)	(X)	669.6	(X)	434.1
35593 11	Compression molding machines	Number	7	(S)	17.2	(S)	12.4
	Extrusion machines:						
	Single screw extruders:						
35593 31	Up to 2.49 inch screw diameter		9	(S)	7.8	3,666	66.2
35593 32	2.50 to 5.49 inch screw diameter		15	*928	51.0		
35593 34	5.50 inch screw diameter and up		12	**300	27.1		
35593 35	Multiple screw extruders	Number	4				

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1] [2]		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
	SPECIAL INDUSTRY MACHINERY, N.E.C.--Con.						
	Plastics working machinery and equipment, excluding patterns and molds--Con.						
	Injection molding machines:						
35593 52	500 tons and under	Number	19	2,478	161.2	4,667	202.3
35593 53	501 to 1,200 tons		11	(S)	81.0		
35593 54	1,201 tons and over		3	35	16.4		
	Blow molding machines:						
35593 62	Injection blow type		3	172	41.6	231	15.5
35593 63	Extrusion blow type		5				
35593 71	Granulators and pellitizers		8	*1,285	16.4	(X)	129.8
35593 72	Thermoforming machines	Number	10	(S)	33.6		
35593 98	Other plastics working machinery and equipment, including parts for plastics working machinery		74	(X)	195.4		
35593 00	Plastics working machinery and equipment, excluding patterns and molds, n.s.k		(NA)	(X)	20.9	(X)	7.9
35594 --	Rubber working machinery and equipment, excluding tire molds		(NA)	(X)	158.1	(X)	137.3
35594 11	High intensity solids mixers		5	(X)	8.5	(X)	(16)
35594 31	Extruding machines	Number	6	642	34.2	230	5.9
35594 41	Vulcanizing presses	Number	2			656	34.7
35594 51	Tire building equipment, except tire molds		13	(X)	34.0	(X)	21.6
35594 71	Tire recapping and repairing machinery and equipment, including recapping vulcanizers		7	(X)	11.1	(X)	11.9
35594 98	Other rubber working machinery, including calendering machines and parts for rubber working machinery, but excluding tire molds		24	(X)	60.6	(X)	[16]56.8
35594 00	Rubber working machinery and equipment, excluding tire molds, n.s.k		(NA)	(X)	9.7	(X)	6.4
35595 --	Special industry machinery and equipment, n.e.c., except chemical, foundry, plastics, and rubber machinery		(NA)	(X)	[14]1,565.3	(X)	[14]1,210.2
35595 11	Petroleum refinery machinery and equipment, including parts		21	(X)	109.6	(X)	40.2
35595 21	Ammunition and explosives loading machinery and equipment and parts		4	(X)	21.1	(X)	9.0
35595 22	Optical lens manufacturing machinery, including surfacers, edgers, lens hardeners, and lens testing equipment		4	(X)	(17)	(X)	(18)
35595 32	Tobacco manufacturing machinery and equipment		8	(X)	15.6	(X)	13.9
35595 41	Clay working machinery and equipment and parts (brick, tile, and ceramics)		12	(X)	22.7	(X)	19.5
35595 43	Cement making machinery and equipment and parts, other than cement kilns		12	(X)	35.6	(X)	19.2
	Concrete products machinery and equipment:						
35595 45	Concrete block machines	Number	5	(X)	4.8	703	6.8
35595 49	Other concrete products machinery and equipment and parts, including concrete pipe making machines		18	(X)	73.9	(X)	59.9
	Glass making machinery and equipment:						
35595 51	Bottle-forming machines	Number	4	(NA)	99.4	(S)	52.3
35595 55	Other glass making machinery and equipment and parts, except lehrs		22				
35595 62	Shoe making and repairing machinery and equipment and parts, including sole stitching machines		11	(X)	34.6	(X)	57.2
35595 73	Cotton ginning machinery and equipment and parts		7	(X)	59.1	(X)	26.5
	Metal finishing equipment, except rolling mill:						
35595 82	Vibratory finishing machines	Number	9	(S)	14.9	(X)	93.5
35595 83	Deburring and barrel tumbling equipment		6	(S)	9.6		
35595 84	Pickling equipment		2				
35595 86	Plating equipment		8	**78	12.5		
35595 87	Metal degreasing machinery		16	**5,935	26.2		
35595 88	Metal drying machinery		6	(S)	5.2		
35595 85	Electronic tube making machinery and equipment and parts		2	(D)	(17)	(X)	18.5
35595 92	Fuel fired kilns (cement, wood, and chemical processing)		7	(S)	42.6	204	13.7
35595 89	Other special industry machinery and equipment and parts, including incandescent lampmaking, paintmaking, stoneworking, hatmaking, leatherworking, jewelers', pharmaceutical, etc	Number	248	(NA)	[17]854.4	(X)	[18]715.5
35595 00	Special industry machinery and equipment, n.e.c., except chemical, foundry, plastics, and rubber machinery, n.s.k		(NA)	(X)	123.5	(X)	64.5
35590 00	Special industry machinery, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	203.1	(X)	128.8
35590 02	Special industry machinery, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	113.2	(X)	40.7

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimates did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]In 1977, in a new procedure, small establishments with more than 5 employees reported on short forms, which requested only product class totals. These data are included in codes ending in "00." Thus 1977 data for product codes (7 digits) may not be completely comparable with 1972 data.

[3]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[4]Products within product class 35514 were completely revised for 1977, so no comparison is possible between 1977 and 1972.

[5]Product codes 35514 22, 35514 41, and 35514 89 were combined to avoid disclosing operations of individual companies.

[6]For 1977, product codes 35521 42 and 35521 47 were combined to avoid disclosing operations of individual companies.

[7]For 1977, product codes 35521 46 and 35521 48 were combined to avoid disclosing operations of individual companies.

[8]For 1972, product codes 35521 67 and 35521 81 were combined to avoid disclosing operations of individual companies.

[9]For 1972, product codes 35522 55 and 35522 43 were combined to avoid disclosing operations of individual companies.

[10]Figure adjusted to omit $102.1 million in value of shipments for chain saws, included in 1972 but tabulated in Industry 3546 in 1977.

[11]For 1972, product codes 35540 41 and 35540 49 were combined to avoid disclosing operations of individual companies.

[12]For 1977, product codes 35555 75 and 35555 98 were combined to avoid disclosing operations of individual companies.

[13]For 1972, product code 35555 77 was included with product code 35555 98.

[14]For 1977 preliminary data and for 1972, product codes 35595 91 and 35595 93 were included. For 1977 final data, values for these items were tabulated in industry 3567.

[15]For 1972, product codes 35592 21 and 35592 35 were combined to avoid disclosing operations of individual companies.

[16]For 1972, product codes 35594 11 and 35594 98 were combined to avoid disclosing operations of individual companies.

[17]For 1977, product codes 35595 22 and 35595 85 were combined with product code 35595 89 to avoid disclosing operations of individual companies.

[18]For 1972, product code 35595 22 was included with product code 35595 89.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35511, DAIRY AND MILK PRODUCTS PLANT MACHINERY		
United States	128.5	57.4
Middle Atlantic Division:		
New York	11.9	BB
East North Central Division:		
Wisconsin	39.9	EE
West North Central Division:		
Minnesota	7.0	BB
35512, COMMERCIAL FOOD PRODUCTS MACHINERY		
United States	357.2	185.0
New England Division:		
New Hampshire	6.2	(NA)
Massachusetts	3.0	BB
Connecticut	11.9	BB
Middle Atlantic Division:		
New York	7.5	8.6
New Jersey	4.4	3.9
Pennsylvania	23.3	10.0
East North Central Division:		
Ohio	103.9	50.9
Indiana	33.6	9.6
Illinois	42.1	24.0
Michigan	23.5	EE
Wisconsin	12.1	BB
West North Central Division:		
Minnesota	8.4	5.5
Missouri	3.6	AA
South Atlantic Division:		
Maryland	6.0	BB
Georgia	7.5	4.0
East South Central Division:		
Kentucky	2.5	BB
West South Central Division:		
Texas	7.0	BB
Pacific Division:		
California	19.8	13.0
35513, INDUSTRIAL FOOD PRODUCTS MACHINERY		
United States	452.0	296.2
New England Division:		
Massachusetts	7.9	3.5
Connecticut	9.4	BB
New York	7.9	15.4
Pennsylvania	3.9	11.5
East North Central Division:		
Ohio	52.8	37.7
Illinois	31.8	24.8
Wisconsin	60.8	19.0
West North Central Division:		
Minnesota	8.5	AA
Iowa	25.1	17.8
Kansas	18.3	5.6
South Atlantic Division:		
North Carolina	2.4	BB
Georgia	19.5	13.0
Florida	21.3	24.3
West South Central Division:		
Texas	9.6	AA
Pacific Division:		
Washington	7.4	AA
California	73.4	50.8
35514, PACKING, PACKAGING, AND BOTTLING MACHINERY		
United States	491.0	232.1
New England Division:		
Massachusetts	44.0	FF
Middle Atlantic Division:		
New York	26.4	EE
New Jersey	17.3	(NA)
Pennsylvania	16.4	11.8
East North Central Division:		
Illinois	50.2	33.1
Michigan	2.3	CC
Wisconsin	45.1	23.0
West North Central Division:		
Minnesota	13.0	BB
South Atlantic Division:		
Georgia	18.6	CC
Pacific Division:		
California	66.2	25.6
35521, TEXTILE MACHINERY, EXCEPT PARTS AND ATTACHMENTS		
United States	361.6	373.8
New England Division:		
Massachusetts	30.8	43.8
Rhode Island	23.4	32.5
Middle Atlantic Division:		
New York	21.7	27.9
New Jersey	14.5	13.8
Pennsylvania	14.7	55.5
East North Central Division:		
Ohio	9.6	3.0
South Atlantic Division:		
Virginia	4.3	(NA)
North Carolina	85.7	96.4
South Carolina	62.1	46.0
Georgia	17.2	EE
East South Central Division:		
Tennessee	23.0	12.4
35522, TEXTILE MACHINERY PARTS AND ATTACHMENTS		
United States	405.2	305.7
New England Division:		
New Hampshire	10.1	EE
Massachusetts	60.3	53.9
Middle Atlantic Division:		
New York	21.9	13.1
New Jersey	4.9	4.3
Pennsylvania	19.6	27.6
South Atlantic Division:		
North Carolina	96.2	68.4
South Carolina	130.8	75.6
Georgia	16.4	CC
East South Central Division:		
Tennessee	6.1	8.1
35531, WOODWORKING MACHINERY, EXCLUDING HOME WORKSHOP		
United States	334.6	270.4
Middle Atlantic Division:		
New York	6.4	(NA)
Pennsylvania	14.3	(NA)

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35531, WOODWORKING MACHINERY, EXCLUDING HOME WORKSHOP--Con.		
East North Central Division:		
Indiana	6.6	(NA)
Illinois	22.7	(NA)
Michigan	10.8	(NA)
Wisconsin	20.7	(NA)
West North Central Division:		
Minnesota	15.7	(NA)
South Atlantic Division:		
North Carolina	12.1	(NA)
West South Central Division:		
Texas	6.8	(NA)
Pacific Division:		
Washington	28.4	(NA)
Oregon	68.7	(NA)
California	12.6	(NA)
35551, PRINTING PRESSES, LITHOGRAPHIC		
United States	290.9	156.0
New England Division:		
Massachusetts	8.8	BB
Middle Atlantic Division:		
New York	20.4	7.3
35552, PRINTING PRESSES, OTHER THAN LITHOGRAPHIC		
United States	121.3	90.2
Middle Atlantic Division:		
New York	3.8	BB
East North Central Division:		
Illinois	5.7	FF
Wisconsin	13.0	(NA)
35553, TYPESETTING MACHINERY AND EQUIPMENT		
United States	252.8	104.1
East North Central Division:		
Illinois	14.8	BB
35555, PRINTING TRADES MACHINERY, N.E.C.		
United States	494.8	303.5
New England Division:		
Massachusetts	57.4	32.1
Connecticut	20.7	11.8
Middle Atlantic Division:		
New York	46.4	25.7
New Jersey	38.6	42.4
Pennsylvania	34.2	20.9
East North Central Division:		
Ohio	41.9	28.1
Indiana	10.7	1.2
Illinois	53.4	56.4
Michigan	23.5	11.3
Wisconsin	16.6	3.9
West North Central Division:		
Minnesota	14.3	6.1
Missouri	5.0	3.8
Kansas	15.1	CC
South Atlantic Division:		
Georgia	3.9	AA
Pacific Division:		
California	22.3	9.9
35591, CHEMICAL MANUFACTURING INDUSTRIES MACHINERY		
United States	436.7	212.5
Middle Atlantic Division:		
New Jersey	54.6	31.9
Pennsylvania	31.7	13.8
East North Central Division:		
Ohio	44.1	26.3
Illinois	34.1	6.6
Michigan	12.8	CC
West South Central Division:		
Texas	4.5	CC
Pacific Division:		
California	10.6	CC
35592, FOUNDRY MACHINERY AND EQUIPMENT		
United States	319.2	132.3
Middle Atlantic Division:		
Pennsylvania	31.4	6.0
East North Central Division:		
Ohio	56.4	31.6
Illinois	54.0	29.7
Michigan	35.4	CC
Wisconsin	12.4	5.3
West North Central Division:		
Minnesota	7.0	AA
Iowa	3.3	(NA)
West South Central Division:		
Texas	2.5	(NA)
Pacific Division:		
California	9.5	AA
35593, PLASTICS WORKING MACHINERY AND EQUIPMENT		
United States	669.6	434.1
New England Division:		
Massachusetts	90.4	59.7
Connecticut	45.6	FF
Middle Atlantic Division:		
New York	49.7	FF
New Jersey	58.5	43.5
Pennsylvania	33.4	FF
East North Central Division:		
Ohio	230.5	127.8
Illinois	13.0	6.1
Michigan	41.5	31.1
South Atlantic Division:		
North Carolina	2.3	(NA)
East South Central Division:		
Kentucky	5.0	2.1
West South Central Division:		
Texas	2.9	(NA)
Pacific Division:		
Washington	2.7	(NA)
California	10.1	CC
35594, RUBBER WORKING MACHINERY AND EQUIPMENT		
United States	158.1	137.3
Middle Atlantic Division:		
Pennsylvania	7.3	6.9
East North Central Division:		
Ohio	103.5	97.6

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** - Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35594, RUBBER WORKING MACHINERY AND EQUIPMENT--Con.		
South Atlantic Division:		
Virginia	3.3	AA
North Carolina	6.2	BB
35595, SPECIAL INDUSTRY MACHINERY AND EQUIPMENT, N.E.C.		
United States	1,565.3	1,210.4
New England Division:		
Maine	5.0	BB
Massachusetts	80.3	92.4
Rhode Island	2.0	2.0
Connecticut	59.9	GG
Middle Atlantic Division:		
New York	101.2	47.4
New Jersey	73.0	63.0
Pennsylvania	135.4	113.7
East North Central Division:		
Ohio	126.3	107.8
Indiana	60.6	38.5
Illinois	101.2	109.9
Michigan	71.1	96.9
Wisconsin	66.4	53.5
35595, SPECIAL INDUSTRY MACHINERY AND EQUIPMENT, N.E.C.--Con.		
West North Central Division:		
Minnesota	40.7	17.5
Iowa	20.4	15.6
Missouri	15.2	BB
South Atlantic Division:		
Maryland	22.8	30.6
Virginia	17.0	8.3
North Carolina	16.3	GG
Georgia	28.9	CC
Florida	26.8	16.0
East South Central Division:		
Kentucky	13.8	11.7
Tennessee	11.7	BB
West South Central Division:		
Oklahoma	70.1	25.9
Texas	123.1	37.2
Mountain Division:		
Arizona	5.0	AA
Pacific Division:		
Oregon	18.8	6.5
California	166.7	96.5

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more

(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3551-	Food products machinery	1,576.2	1,394.3	1,410.6	1,313.2	1,112.4	867.2	689.9	517.3
35511	Dairy and milk products plant machinery	128.5	102.7	81.9	80.3	62.2	57.4		
35512	Commercial food products machinery	357.2	342.0	294.7	283.1	229.4	185.0	615.3	489.7
35513	Industrial food products machinery	452.0	523.8	557.1	506.8	438.7	296.2		
35514	Packing, packaging, and bottling machinery	491.0	390.7	383.2	340.4	286.2	232.1		
35510	Food products, machinery, n.s.k.	147.5	(35.1)	(93.7)	(102.6)	95.9	96.5	74.7	27.6
3552-	Textile machinery	857.1	917.6	861.2	987.1	820.8	738.1	652.6	499.1
35521	Textile machinery, except parts and attachments	361.6	441.8	405.8	496.0	392.8	373.8	348.8	252.6
35522	Textile machinery parts and attachments	405.2	450.3	427.4	464.0	376.2	305.7	267.4	232.1
35520	Textile machinery, n.s.k.	90.3	(25.5)	(28.0)	(27.1)	51.8	58.6	36.4	14.4
3553-	Woodworking machinery	547.3	(2)	(2)	(2)	(2)	339.5	210.6	174.8
35531	Woodworking machinery, excluding home workshop	334.6	(2)	(2)	(2)	(2)	270.4	167.4	140.0
35532	Woodworking machinery for home workshops	143.6	117.0	81.6	86.0	68.8	51.5	29.1	29.0
35530	Woodworking machinery, n.s.k.	69.2	(11.5)	(S)	22.6	18.9	17.6	14.1	5.8
35540	Paper industries machinery	698.3	772.5	760.6	684.6	458.3	381.4	515.1	347.5
3555-	Printing trades machinery	1,287.3	1,006.1	939.6	913.2	842.1	736.6	656.0	403.2
35551	Printing presses, lithographic	290.9	282.1	242.8	207.6	176.7	156.0	263.6	137.6
35552	Printing presses, other than lithographic	121.3	85.5	87.8	111.3	124.2	90.2		
35553	Typesetting machinery and equipment	252.8	190.3	170.2	161.1	123.9	104.1		
35554	Bindery machinery and equipment	36.8	39.4	39.8	42.8	36.6	33.5	354.3	243.8
35555	Printing trades machinery, n.e.c.	494.8	364.8	340.7	332.2	329.6	303.5		
35550	Printing trades machinery, n.s.k.	90.7	(44.0)	(58.3)	(58.2)	51.1	49.3	38.1	21.8
3559-	Special industry machinery, n.e.c.	3,465.2	3,855.1	3,653.4	3,418.2	2,956.6	2,295.9	1,670.3	988.4
35591	Chemical manufacturing industries machinery	436.7	535.5	476.2	395.7	257.9	212.5	284.5	152.4
35592	Foundry machinery and equipment	319.2	241.7	266.6	214.4	163.1	132.3	143.9	89.6
35593	Plastics working machinery and equipment	669.6	554.4	443.6	527.7	585.4	434.1	247.6	137.1
35594	Rubber working machinery and equipment	158.1	173.1	162.6	215.8	208.9	137.3	116.6	76.8
35595	Special industry machinery and equipment, n.e.c.	1,565.3	2,293.3	2,218.6	1,956.8	1,585.2	1,210.2	778.6	500.2
35590	Special industry machinery, n.e.c., n.s.k.	316.3	(57.1)	(85.6)	(107.8)	156.1	169.5	99.0	32.3

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with these estimates are published in annual survey of manufactures volumes for this period. Figures shown in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Prior to 1977, chain saws, hand held, were included in product class 35531. Data for 1972, 1967, and 1963 have been adjusted to exclude value of chain saws. Data are not available on a comparable basis for 1973, 1974, 1975, and 1976.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3551, FOOD PRODUCTS MACHINERY					
	Materials parts, containers, and supplies	.....	(X)	636.4	(X)	319.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	13.5	26.7	7.9
331012	Sheet and strip		**30.7	13.7	33.8	7.7
331013	Plates		(S)	6.9	23.4	5.2
331015	Structural shapes		(S)	3.6	13.1	3.3
331019	All other carbon steel mill shapes and forms		(S)	5.7	(S)	2.5
331020	Alloy steel, except stainless		**10.4	10.4	4.2	2.4
	Stainless steel:					
331033	Sheet and strip		**16.2	32.9	13.9	17.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	**11.4	26.3	9.3	14.1
335105	Copper and copper-base alloy mill shapes and forms	Million lb.....	(S)	1.9	1.1	1.0
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.....	(S)	3.7	2.0	1.5
335008	All other aluminum mill shapes and forms (extruded shapes, wire, rod, bar, powder, tubing, etc.)	Million lb.....	(S)	4.3	2.0	1.4
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons..	(S)	15.9	(S)	9.0
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		**6.1	9.9	(S)	5.9
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	17.0	22.4	2.8	3.6
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	1.5	1.4	1.9
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Electrical motors and generators:					
362115	Fractional horsepower electric motors (under 1 hp.), excluding timing motors:					
	Purchased	Thousands.....	*178.4	8.7	84.8	4.0
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp. and over):					
	Purchased		(S)	18.8	50.4	7.2
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	6.1	(X)	2.4
356201	Roller	.....	(X)	3.1	(X)	1.8
356810	Plain bearings and bushings	.....	(X)	2.1	(X)	[2]15.0
356601	Speed changers, drives, and gears	.....	(X)	13.1		
360101	Electrical transmission, distribution, and control equipment	.....	(X)	19.2	(X)	[2]10.0
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products; fabricated steel plate, and weldments	.....	(X)	11.3	(X)	[2]10.0
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	241.8	(X)	113.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	139.6	(X)	70.2
	INDUSTRY 3552, TEXTILE MACHINERY					
	Materials, parts, containers, and supplies	.....	(X)	331.7	(X)	289.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**20.6	11.6	37.6	13.7
331012	Sheet and strip		(S)	6.4	17.6	5.8
331015	Structural shapes		**11.4	5.4	13.5	3.5
331017	Wire and wire products		(S)	9.1	4.8	5.8
331019	All other carbon steel mill shapes and forms		(S)	3.2	(S)	2.4
331020	Alloy steel, except stainless		**.9	1.0	3.2	2.1
331031	Stainless steel mill shapes and forms	1,000 s. tons..	*3.3	6.9	6.4	10.8
335105	Copper and copper-base alloy mill shapes and forms	Million lb.....	**.4	.5	(S)	1.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		5.4	3.8	6.8	2.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		3.5	2.8	6.6	4.0
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	.6	6.3	3.3
	Primary metal and scrap:					
331051	Pig iron, excluding silvery iron	1,000 s. tons..	6.7	1.2	7.2	.5
999811	Iron and steel scrap, excluding home scrap				17.4	.8
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**21.1	26.6	50.9	22.4
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	**5.8	5.5	15.1	8.2
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3552, TEXTILE MACHINERY--Con.					
362120	Integral horsepower electric motors and generators (1 hp. and over):					
	Purchased	Thousands	(S)	10.2	37.0	8.0
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	4.5	(X)	4.4
356201	Roller		(X)	2.7	(X)	1.7
356810	Plain bearings and bushings		(X)	1.8	(X)	11.0
356023	Speed reducers, gears, drives, and other mechanical power transmission equipment, except bearings		(X)	6.7		
307901	Fabricated plastics products, except gaskets		(X)	3.5	(X)	[2]12.0
360101	Electrical contol and distribution equipment, including coils, switches, relays, regulators, motor controls, etc		(X)	10.7	(X)	[2]8.0
970099	All other materials and components, parts, containers, and supplies consumed		(X)	123.8	(X)	123.1
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	83.2	(X)	33.9
	INDUSTRY 3553, WOODWORKING MACHINERY					
	Materials, parts, containers, and supplies		(X)	248.0	(X)	185.7
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	8.8	25.0	7.7
331012	Sheet and strip		**27.7	10.7	17.0	3.9
331013	Plates		(S)	3.9	9.8	4.4
331019	All other carbon steel mill shapes and forms		**7.2	3.0	5.3	1.7
331020	Alloy steel, except stainless		*6.8	3.3	3.0	1.1
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	(Z)	.1	(S)	.5
331050	All other stainless steel mill shapes and forms					
335001	Aluminum and aluminum-base alloy	Million lb	(S)	.8	(S)	.5
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons	*.3	.7	(X)	([4])
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	28.6	17.5	25.8	11.3
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*2.6	7.2	2.3	2.1
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	11.8	12.1	4.7	7.0
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	(Z)	.1	2.0	2.2
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp. and over):					
	Purchased	Thousands	*409.6	17.2	198.4	8.6
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	4.0	(X)	2.8
356201	Roller		(X)	1.2	(X)	2.5
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	2.5	(X)	([4])
307902	Fabricated plastics products, except gaskets					
329903	Industrial diamonds		(X)	.3	(X)	([4])
360101	Electrical transmission, distribution, and control equipment, etc		(X)	5.7	(X)	([4])
970099	All other materials and components, parts, containers, and supplies		(X)	95.6	(X)	[4]116.3
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	53.3	(X)	13.1
	INDUSTRY 3554, PAPER INDUSTRIES MACHINERY					
	Materials, parts, containers, and supplies		(X)	298.4	(X)	162.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	11.7	(S)	5.9
331013	Plates		(S)	10.5	13.2	3.2
331019	All other carbon steel mill shapes and forms		(S)	6.8	13.1	4.9
331020	Alloy steel, except stainless		(S)	4.3	1.5	1.5
	Stainless steel:					
331033	Sheet and strip		(S)	3.4	.9	1.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	9.0	1.2	2.9
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	.9	.8	.8
335143	Plate, sheet, and strip, including military cups and discs		(S)	.7		
335152	Pipe and tube	Million lb	(S)	1.1	.4	.3
	Primary metals and scrap:					
331051	Pig iron, excluding silvery iron	1,000 s. tons	(S)	.7	(D)	(D)
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons	(S)	1.1		

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3554, PAPER INDUSTRIES MACHINERY--Con.					
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	*14.6	26.0	8.5	5.0
	Produced and consumed		3.5	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	7.4	2.1	2.1
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased	Thousands	(S)	6.7	(S)	4.3
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	3.9	(X)	1.8
356201	Roller		(X)	4.9	(X)	2.3
356810	Plain bushings and bearings		(X)	1.2	(X)	[2]9.0
356601	Speed changers, drives, and gears		(X)	10.1		
360101	Electrical transmission, distribution, and control equipment		(X)	8.8	(X)	([4])
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	5.8	(X)	([4])
970099	All other materials and components, parts, containers, and supplies		(X)	140.3	(X)	[4]67.6
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	33.1	(X)	49.4
	INDUSTRY 3555, PRINTING TRADES MACHINERY					
	Materials, parts, containers, and supplies		(X)	452.7	(X)	218.7
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	**15.6	12.1	14.2	5.5
331012	Sheet and strip		**2.7	2.3	(S)	1.1
331013	Plates		**4.7	3.3	4.0	1.4
331019	All other carbon steel mill shapes and forms		(S)	3.2	4.5	2.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	3.3	2.1	1.3
331029	All other alloy steel mill shapes and forms		(S)	.9	(S)	.6
	Stainless steel:					
331033	Sheet and strip		(S)	.7	.6	.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	1.3	.6	.9
	Copper and copper-base alloy:					
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content)	(S)	1.0	.7	.4
335728	Bare wire, for electrical conduction only	Million lb	(S)	.1	(X)	([5])
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	.8	(S)	13.3
335143	Plate, sheet, and strip, including military cups and discs		*.7	.6		
335152	Pipe and tube		(S)	.2		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*7.4	12.3	5.0	2.5
335008	All other aluminum mill shapes and forms	Million lb	(S)	1.5	2.1	1.5
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	(S)	23.3	34.0	20.9
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	6.4	3.9	2.9
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors (under 1 hp), excluding timing motors:					
	Purchased	Thousands	*50.7	6.0	(S)	3.6
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	10.5	5.4	4.4
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	3.6	(X)	4.1
356201	Roller		(X)	2.7	(X)	1.4
356810	Plain bearings and bushings		(X)	1.3	(X)	[2]10.0
356601	Speed changers, drives, and gears		(X)	6.8		
360101	Electrical transmission, distribution, and control equipment		(X)	52.6	(X)	([5])
970099	All other materials and components, parts, containers, and supplies		(X)	191.8	(X)	[5]90.7
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	104.1	(X)	49.2

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3559, SPECIAL INDUSTRY MACHINERY, N.E.C.					
	Materials, parts, containers, and supplies		(X)	1,332.0	(X)	903.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	**93.7	47.6	72.6	20.1
331012	Sheet and strip		*68.5	29.1	63.7	14.1
331013	Plates		**154.4	61.2	146.8	32.1
331015	Structural shapes		**53.8	27.4	43.7	10.5
331017	Wire and wire products		(S)	3.2	3.9	2.0
331019	All other carbon steel mill shapes and forms		*20.1	14.9	27.0	7.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	13.3	13.1	6.8
331029	All other alloy steel mill shapes and forms		*11.0	20.0	12.5	6.2
	Stainless steel:					
331033	Sheet and strip		(S)	14.7	9.0	14.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons	*5.3	15.2	6.2	12.2
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	2.2	2.1	1.9
335143	Plate, sheet, and strip, including military cups and discs		.4	.7	3.6	2.7
335152	Pipe and tube		(S)	3.2	2.6	3.2
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	3.8	5.6	3.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*1.9	2.3	3.2	1.8
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	2.0	2.7	1.6
335609	Nonferrous metal mill shapes and forms, except copper and aluminum		(X)	4.5	(X)	[2]24.0
	Primary metals and scrap:					
331051	Pig iron, excluding silvery iron	1,000 s. tons	9.2	1.7	11.7	.9
999811	Iron and steel scrap, excluding home scrap		49.0	3.7	53.0	2.0
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(S)	50.0	48.0	30.7
	Produced and consumed		(D)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	26.2	37.6	26.6
	Produced and consumed	1,000 s. tons	(D)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	4.7	4.8	5.2
	Produced and consumed		(D)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	3.5	2.3	3.0
	Produced and consumed	Million lb	(D)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors (under 1 hp), excluding timing motors:					
	Purchased	Thousands	(S)	8.1	(S)	4.9
	Produced and consumed		(D)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	39.1	95.0	20.2
	Produced and consumed	Thousands	(D)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	8.8	(X)	5.9
356201	Roller		(X)	7.2	(X)	5.8
356810	Plain bearings and bushings		(X)	3.0	(X)	[2]32.0
356601	Speed changers, drives, and gears		(X)	19.6		
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	17.9	(X)	[2]10.0
344301	Metal tanks, heat exchangers, steam condensers, and other boiler-shop products; fabricated steel plate weldments		(X)	41.5	(X)	[2]51.0
349402	Fabricated metal pipe, valves, and pipe fittings		(X)	21.5	(X)	[2]24.0
360101	Electrical transmission, distribution, and control equipment		(X)	48.0	(X)	([5])
346901	Metal stampings		(X)	2.9	(X)	([6])
356101	Pumps and pump parts		(X)	24.3	(X)	[2]16.0
356301	Air and gas compressors, except refrigeration compressors		(X)	2.4		
970099	All other materials and components, parts, containers, and supplies		(X)	439.3	(X)	[4]362.6
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	293.3	(X)	138.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified.
n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1977 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material codes 306902, 307902, 329903, and 335609 were included with material code 970099.

[5]For 1972, material codes 335792 and 360101 were included with material code 970099.

[6]For 1972, material codes 360101 and 346901 were included with material code 970099.

General Industrial Machinery and Equipment

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DESCRIPTION OF INDUSTRIES

GENERAL INDUSTRIAL MACHINERY AND EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3561	Pumps and Pumping Equipment
3562	Ball and Roller Bearings
3563	Air and Gas Compressors
3564	Blowers and Fans
3565	Industrial Patterns
3566	Speed Changers, Drives, and Gears
3567	Industrial Furnaces and Ovens
3568	Power Transmission Equipment, N.E.C.
3569	General Industrial Machinery, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3561, PUMPS AND PUMPING EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of pumps and pumping equipment for general industrial use. Establishments primarily engaged in the manufacture of measuring and dispensing pumps for gasoline service-station use are classified in industries 3586 and 3563.

The total value of shipments for establishments classified in the Pumps and Pumping Equipment industry amounted to $3,774 million in 1977, an increase of 97 percent from 1972. The value of shipments of products classified as primary to the industry was $3,523 million, an increase of 116 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were industrial pumps, except fluid power pumps, for which shipments increased 126 percent, and hydraulic fluid power pumps, for which shipments increased 87 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,142 million in 1977, was 95 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 63.0 thousand employees, an increase of 14 percent from 1972. The leading States in employment were Ohio, California, Illinois, and Texas, accounting for approximately 40 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of pumps and pumping equipment only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of pumps and pumping equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35P, Pumps and Compressors. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3562, BALL AND ROLLER BEARINGS

This industry comprises establishments primarily engaged in the manufacture of ball and roller bearings (including ball or roller bearing pillow block, flange, takeup cartridge, and hanger units) and parts. Establishments primarily engaged in the manufacture of bearings, except ball and roller, are classified in industry 3568.

The total value of shipments for establishments classified in the Ball and Roller Bearings industry amounted to $2,567 million in 1977, an increase of 68 percent from 1972. The value of shipments of products classified as primary to the industry was $2,445 million, an increase of 72 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product

shipments.) The products accounting for a significant portion of this change were taper roller bearings, for which shipments increased 78 percent, and ball bearings, for which shipments increased 58 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,473 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 50.6 thousand employees, a decrease of 1 percent from 1972. The leading States in employment were Connecticut, Ohio, South Carolina, and Pennsylvania, accounting for approximately 40 percent of the industry's 1977 employment. Data for Ohio have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront of the industry's employment for 1972; however, data for some States were withheld to avoid disclosing operations of individual companies.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3563, AIR AND GAS COMPRESSORS

This industry comprises establishments primarily engaged in the manufacture of air and gas compressors for general industrial use. Establishments primarily engaged in the manufacture of refrigeration compressors and compressing units are classified in industry 3585.

The total value of shipments for establishments classified in the Air and Gas Compressors industry amounted to $2,076 million in 1977, an increase of 142 percent from 1972. The value of shipments of products classified as primary to the industry was $1,923 million, an increase of 166 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were air and gas compressors and vacuum pumps, for which shipments increased 168 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,146 million in 1977, was 145 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.0 thousand employees, an increase of 40 percent from 1972. The leading States in employment were New York, Pennsylvania, Ohio, and Illinois, accounting for approximately 65 percent of the industry's 1977 employment. These same States were in the forefront of the industry's employment for 1972; however, data for some States were withheld to avoid disclosing operations of individual companies.

The 1977 census obtained data on shipments of air and gas compressors only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of air and gas compressors are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35P, Pumps and Compressors. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3564, BLOWERS AND FANS

This industry comprises establishments primarily engaged in the manufacture of industrial and commercial blowers, industrial and commercial exhaust and ventilating fans, and attic fans. Establishments primarily engaged in the manufacture of air-conditioning units are classified in industry 3585, and free-air circulating fans for use on desks, pedestals, or wall brackets, as well as household window-type fans and rollabouts, and kitchen and household ventilating and exhaust fans are classified in industry 3634.

The total value of shipments for establishments classified in the Blowers and Fans industry amounted to $1,431 million in 1977, an increase of 78 percent from 1972. The value of shipments of products classified as primary to the industry was $1,422 million, an increase of 109 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were centrifugal blowers and fans, for which shipments increased 96 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $777 million in 1977, was 66 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.0 thousand employees, an increase of 19 percent from 1972. The leading States in employment were Ohio, New York, California, and Indiana, accounting for approximately 40 percent of the industry's 1977 employment. These same Sates were in the forefront of the industry's employment for 1972; however, data for some States were withheld to avoid disclosing operations of individual companies.

The 1977 census obtained data on shipments of industrial air pollution control equipment only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of industrial air pollution control equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR)

MA-35J, Selected Industrial Air Pollution Control Equipment. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3565, INDUSTRIAL PATTERNS

This industry comprises establishments primarily engaged in the manufacture of industrial patterns, except shoe patterns.

The total value of shipments for establishments classified in the Industrial Patterns industry amounted to $321 million in 1977, an increase of 62 percent from 1972. The value of shipments of products classified as primary to the industry was $412 million, an increase of 76 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were foundry patterns, for which shipments increased 57 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $253 million in 1977, was 57 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.3 thousand employees, an increase of 9 percent from 1972. The leading States in employment were Michigan, Ohio, and Illinois, accounting for approximately 50 percent of the industry's 1977 employment. These same States were in the forefront of the industry's employment for 1972; however, data for some States were withheld to avoid disclosing operations of individual companies.

The census of manufactures data for industry 3565 include data for "captive" production, i.e., production of foundry patterns for use by the producing company. Most of these captive establishments are part of companies primarily engaged in operating foundries.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 21 percent of total value of shipments.

INDUSTRY 3566, SPEED CHANGERS, DRIVES, AND GEARS

This industry comprises establishments primarily engaged in the manufacture of speed changers, industrial high-speed drives, and gears. Establishments primarily engaged in the manufacture of these items for motor vehicles are classified in industry 3714.

The total value of shipments for establishments classified in the Speed Changers, Drives, and Gears industry amounted to $1,222 million in 1977, an increase of 93 percent from 1972. The value of shipments of products classified as primary to the industry was $1,200 million, an increase of 102 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were industrial high-speed drives, for which shipments increased 228 percent, and course pitch gears, for which shipments increased 199 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $803 million in 1977, was 96 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.3 thousand employees, an increase of 12 percent from 1972. The leading States in employment were Wisconsin, Illinois, Ohio, and Indiana, accounting for approximately 55 percent of the industry's 1977 employment. This represents a shift from 1972 when Illinois, Wisconsin, Pennsylvania, and Indiana accounted for approximately 55 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3567, INDUSTRIAL FURNACES AND OVENS

This industry comprises establishments primarily engaged in the manufacture of industrial process furnaces, ovens, induction and dielectric heating equipment, and related devices.

The total value of shipments for establishments classified in the Industrial Furnaces and Ovens industry amounted to $746 million in 1977, an increase of 68 percent from 1972. The value of shipments of products classified as primary to the industry was $707 million, an increase of 107 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were electric metal processing and heat treating furnaces, for which shipments increased 219 percent, and infrared electric and extruding furnaces, for which shipments increased 113 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $469 million in 1977, was 92 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.2 thousand employees, an increase of 12 percent from 1972. The leading States in

employment were Pennsylvania, Ohio, Michigan, and Illinois, accounting for approximately 50 percent of the industry's 1977 employment. This represents a shift from 1972 when Pennsylvania, Ohio, California, and New Jersey accounted for approximately 55 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3568, POWER TRANSMISSION EQUIPMENT, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of mechanical power transmission equipment and parts for industrial machinery. Establishments primarily engaged in the manufacture of automotive, tank, and tractor power transmission equipment are classified in industry 3714; aircraft power transmission equipment in industry 3728; ball and roller bearings in industry 3562; and speed changers, industrial high-speed drives, and gears in industry 3566.

The total value of shipments for establishments classified in the Power Transmission Equipment, N.E.C. industry amounted to $1,626 million in 1977, an increase of 86 percent from 1972. The value of shipments of products classified as primary to the industry was $1,711 million, an increase of 75 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were plain bearings and bushings, except automotive, for which shipments increased 119 percent, and sprockets, for which shipments increased 59 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,009 million in 1977, was 85 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.5 thousand employees, an increase of 17 percent from 1972. The leading States in employment were Indiana, Illinois, Michigan, and Pennsylvania, accounting for approximately 55 percent of the industry's 1977 employment. These same States were in the forefront of the industry's employment for 1972; however, data for some States were withheld to avoid disclosing operations of individual companies.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3569, GENERAL INDUSTRIAL MACHINERY, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of machinery, equipment, and components for general industrial use, and for which no special classification is provided. Establishments primarily engaged in the production of machine and equipment parts, usually on a job or order basis, are classified in industry 3599.

The total value of shipments for establishments classified in the General Industrial Machinery, N.E C. industry amounted to $2,780 million in 1977, an increase of 137 percent from 1972. The value of shipments of products classified as primary to the industry was $2,689 million, an increase of 137 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were packing and packaging machinery, except food, for which shipments increased 148 percent, and filters and strainers, for which shipments increased 129 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,602 million in 1977, was 130 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 57.5 thousand employees, an increase of 55 percent from 1972. The leading States in employment were California, New York, Illinois, and Pennsylvania, accounting for approximately 35 percent of the industry's 1977 employment. This represents a shift from 1972 when California, Pennsylvania, Wisconsin, and New York accounted for approximately 35 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agenices or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
INDUSTRY 3561, PUMPS AND PUMPING EQUIPMENT[3]																
1977 Census	515	613	285	63.0	900.6	39.8	79.5	506.9	2 141.6	1 721.2	3 773.7	127.3	(NA)	1 024.0	88	88
1976 ASM	(NA)	(NA)	(NA)	62.8	832.5	39.0	78.1	461.5	1 858.9	1 567.7	3 422.5	120.5	1 039.7	975.9	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	63.9	774.6	39.7	77.9	436.5	1 669.1	1 411.7	3 044.9	113.9	929.0	954.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	61.9	689.4	40.8	80.6	403.6	1 501.5	1 221.9	2 562.6	115.2	779.2	872.2	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	59.7	602.4	38.5	79.3	352.3	1 320.3	978.8	2 204.0	84.3	676.0	646.8	(NA)	(NA)
1972 Census	506	559	260	55.5	532.9	35.5	71.6	302.2	1 095.6	852.7	1 917.3	56.9	619.4	534.6	83	86
INDUSTRY 3562, BALL AND ROLLER BEARINGS																
1977 Census	102	149	104	50.6	752.6	41.3	82.4	579.9	1 472.7	1 139.9	2 567.3	132.9	(NA)	621.7	96	98
1976 ASM	(NA)	(NA)	(NA)	49.2	687.1	39.9	79.6	524.3	1 327.5	968.6	2 282.2	87.4	1 279.4	562.9	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	50.0	627.9	40.2	78.8	475.8	1 208.8	911.5	2 106.7	92.1	1 200.7	553.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	55.3	658.4	45.0	92.5	509.5	1 296.0	893.2	2 099.8	109.8	1 154.8	563.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	54.3	612.0	43.9	91.6	472.2	1 114.8	746.8	1 845.3	73.1	1 070.4	435.4	(NA)	(NA)
1972 Census	99	135	93	50.9	525.5	41.4	83.4	403.7	931.3	610.4	1 530.5	51.3	987.0	398.5	94	99
1971 ASM	(NA)	(NA)	(NA)	48.1	444.2	38.4	74.4	333.2	776.9	495.6	1 279.4	86.7	981.5	351.4	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	56.0	482.0	45.1	87.6	360.5	808.2	520.3	1 316.3	54.9	928.3	361.5	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	58.8	509.6	47.9	99.3	390.8	851.7	577.0	1 408.9	69.3	907.1	355.2	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	58.8	461.2	47.3	96.0	347.6	844.9	511.4	1 341.3	75.3	876.9	335.2	(NA)	(NA)
1967 Census	85	124	97	58.8	456.0	47.5	100.9	343.5	833.3	510.8	1 328.5	107.1	825.1	318.0	97	97
1966 ASM	(NA)	(NA)	(NA)	61.4	465.4	49.8	108.0	359.8	872.3	556.7	1 398.9	91.4	(NA)	305.3	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	57.4	419.9	46.5	99.7	320.6	792.3	501.1	1 270.9	64.9	(NA)	274.6	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	53.6	384.2	43.2	91.3	294.2	695.1	443.8	1 116.6	44.9	604.5	236.2	(NA)	(NA)
1963 Census	93	125	93	52.3	348.7	42.0	86.0	263.0	627.7	372.3	998.8	39.2	567.1	219.6	97	98
INDUSTRY 3563, AIR AND GAS COMPRESSORS[3]																
1977 Census	148	175	103	32.0	465.6	19.1	38.2	255.2	1 145.5	953.3	2 075.6	55.8	(NA)	610.9	88	89
1976 ASM	(NA)	(NA)	(NA)	26.8	358.1	16.3	31.9	195.7	878.8	865.0	1 736.9	46.4	388.6	551.4	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	27.3	342.5	16.9	33.3	182.2	811.1	738.8	1 509.1	42.1	348.8	539.9	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	30.5	355.4	19.0	37.5	195.0	786.0	697.2	1 376.5	33.9	358.8	533.0	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	24.5	269.4	15.0	28.4	143.7	560.5	491.7	1 012.3	19.8	296.5	348.4	(NA)	(NA)
1972 Census	55	84	64	22.9	226.6	13.5	27.2	117.5	467.5	397.0	858.4	15.3	299.3	286.7	83	90
INDUSTRY 3564, BLOWERS AND FANS																
1977 Census	432	482	198	28.0	356.8	18.6	36.7	209.6	776.7	662.8	1 430.8	37.5	(NA)	242.9	89	87
1976 ASM	(NA)	(NA)	(NA)	26.1	317.2	17.7	34.1	184.1	719.2	622.5	1 341.2	29.5	324.2	219.6	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	27.1	309.7	17.8	32.6	175.2	664.5	625.6	1 306.0	41.8	332.1	242.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	27.1	274.1	18.4	37.0	165.1	579.4	548.1	1 087.7	33.0	268.0	250.7	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	26.7	262.8	18.0	37.1	153.6	570.3	455.8	1 006.3	25.7	255.3	172.5	(NA)	(NA)
1972 Census	360	396	172	23.5	216.1	16.0	32.0	126.5	468.8	343.3	805.3	22.2	229.7	125.4	79	84
1971 ASM	(NA)	(NA)	(NA)	22.3	191.2	14.9	30.3	109.0	392.1	300.5	697.9	15.9	204.6	114.0	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	22.6	185.2	15.4	32.0	107.5	371.9	293.2	665.3	17.4	194.5	116.1	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	24.1	188.6	16.8	34.8	114.8	368.1	285.6	640.4	15.1	171.1	115.1	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	21.3	159.0	14.4	30.4	93.8	292.2	222.6	513.0	14.1	151.2	86.7	(NA)	(NA)
1967 Census	271	287	129	21.0	149.2	14.9	31.5	93.2	302.2	222.6	525.2	14.5	139.7	84.7	85	82
1966 ASM	(NA)	(NA)	(NA)	17.9	126.6	13.0	26.7	78.8	253.5	198.4	444.3	12.5	(NA)	76.7	(NA)	(NA)
1965 ASM	(NA)	(NA)	(NA)	17.0	115.0	11.8	24.6	68.9	223.1	180.6	400.5	8.4	(NA)	64.1	(NA)	(NA)
1964 ASM	(NA)	(NA)	(NA)	15.1	102.9	10.7	23.0	63.3	191.2	149.0	339.0	8.7	104.6	54.3	(NA)	(NA)
1963 Census	225	237	97	15.2	94.1	10.7	21.6	57.8	180.8	135.7	315.3	7.0	98.3	53.3	83	79

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3565, INDUSTRIAL PATTERNS																
1977 Census--	1 001	1 002	115	9.3	152.7	8.0	15.8	122.2	252.5	72.0	320.6	11.1	(NA)	25.2	97	75
1976 ASM----	(NA)	(NA)	(NA)	8.5	140.0	7.1	15.5	113.4	211.5	61.1	273.3	14.2	118.2	20.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.9	138.7	7.2	15.8	112.4	219.8	63.6	287.9	12.2	105.1	19.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.0	144.0	8.2	17.6	115.9	247.6	67.0	313.1	6.5	91.3	28.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.2	117.1	7.9	15.1	96.7	185.1	41.4	224.1	5.0	77.6	15.0	(NA)	(NA)
1972 Census--	1 017	1 021	97	8.5	103.1	7.4	13.9	85.3	161.0	38.8	198.0	5.3	73.5	12.9	95	78
1971 ASM----	(NA)	(NA)	(NA)	8.5	87.9	7.2	14.0	71.5	153.3	41.8	197.6	6.9	67.4	11.4	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	10.4	101.9	8.9	16.7	82.4	159.3	45.8	206.4	4.4	68.1	16.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.5	112.2	9.3	16.9	94.2	167.3	40.0	206.0	6.6	74.2	17.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	10.1	93.6	9.3	16.5	78.0	151.8	36.6	188.3	15.0	71.6	11.9	(NA)	(NA)
1967 Census--	1 156	1 163	141	10.9	106.0	9.5	19.4	86.7	165.5	37.0	201.8	8.1	101.3	12.7	96	80
1966 ASM----	(NA)	(NA)	(NA)	12.2	118.0	10.7	22.5	100.8	187.3	52.0	233.0	11.7	(NA)	15.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.1	101.3	10.6	20.4	87.7	158.3	46.4	201.7	7.4	(NA)	10.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	10.5	87.6	9.4	19.4	76.0	138.3	33.2	170.0	7.4	32.3	9.0	(NA)	(NA)
1963 Census--	1 206	1 209	106	9.9	75.6	8.7	17.7	64.9	112.6	29.2	140.7	3.8	28.9	8.4	96	80
INDUSTRY 3566, SPEED CHANGERS, DRIVES, AND GEARS[3]																
1977 Census--	307	327	162	25.3	365.4	17.6	35.0	226.7	803.1	429.7	1 222.3	48.5	(NA)	297.8	87	84
1976 ASM----	(NA)	(NA)	(NA)	25.2	340.1	17.8	35.9	218.9	765.7	426.0	1 203.0	58.7	514.2	286.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	26.9	331.8	19.2	38.8	215.7	713.8	438.1	1 141.7	41.8	468.0	290.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	27.0	305.7	19.3	40.0	199.4	644.1	371.9	961.5	40.5	398.7	258.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	25.4	272.9	17.7	36.4	174.0	525.2	304.4	797.1	28.0	379.4	184.7	(NA)	(NA)
1972 Census--	330	346	155	22.5	224.2	15.6	30.6	137.5	409.0	231.3	632.7	21.8	356.7	147.6	88	89
INDUSTRY 3567, INDUSTRIAL FURNACES AND OVENS																
1977 Census--	311	327	137	15.2	209.4	9.3	17.9	107.4	469.3	305.4	746.3	13.4	(NA)	151.4	91	90
1976 ASM----	(NA)	(NA)	(NA)	13.3	183.5	7.6	14.7	91.2	373.0	291.8	669.5	11.8	148.8	122.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	13.8	179.3	8.1	15.9	93.0	363.0	302.7	664.6	14.8	148.2	138.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.8	189.5	10.1	20.8	102.6	382.0	293.7	645.7	13.3	134.6	153.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	13.7	149.5	8.7	17.6	81.2	294.7	226.7	498.9	7.1	114.1	93.1	(NA)	(NA)
1972 Census--	253	266	108	13.6	138.5	8.1	16.0	69.8	244.3	200.3	443.2	7.5	122.9	75.7	78	91
1971 ASM----	(NA)	(NA)	(NA)	13.2	128.4	7.0	14.0	56.8	217.2	220.9	438.4	6.0	96.5	72.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	14.9	138.6	7.9	15.9	62.8	253.7	216.0	467.7	9.2	93.6	70.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	15.7	138.5	8.8	17.9	64.8	264.4	212.4	472.4	5.9	83.4	73.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	13.6	114.1	7.3	14.8	49.2	215.8	197.1	414.4	6.0	69.8	54.0	(NA)	(NA)
1967 Census--	246	255	117	16.1	129.3	8.9	18.3	58.2	259.4	236.1	495.7	11.6	68.3	66.5	87	88
1966 ASM----	(NA)	(NA)	(NA)	14.3	112.2	8.0	17.7	52.4	212.9	199.1	401.0	5.4	(NA)	61.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.9	102.4	7.3	16.2	46.8	193.9	164.3	349.4	6.6	(NA)	51.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	12.3	93.0	6.9	15.2	41.5	169.7	158.3	324.0	4.0	61.9	44.9	(NA)	(NA)
1963 Census--	229	238	93	12.1	83.7	6.8	14.0	38.7	143.0	137.7	279.1	4.6	58.2	41.1	83	85
INDUSTRY 3568, POWER TRANSMISSION EQUIPMENT, N.E.C.[3]																
1977 Census--	184	226	163	32.5	464.8	23.8	45.8	306.8	1 009.1	650.2	1 626.0	50.3	(NA)	418.8	82	74
1976 ASM----	(NA)	(NA)	(NA)	29.0	372.1	20.8	40.1	243.0	815.2	516.3	1 322.3	35.4	518.7	339.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	33.0	396.4	23.7	46.1	260.4	849.7	551.6	1 401.9	47.3	506.8	336.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	32.0	365.8	24.1	49.3	254.6	783.0	520.6	1 260.5	40.5	431.4	316.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	32.4	346.2	24.0	49.9	240.5	693.3	443.5	1 102.4	38.4	411.4	277.2	(NA)	(NA)
1972 Census--	125	155	127	27.7	266.5	20.7	42.0	183.0	544.4	340.3	876.4	20.4	350.7	208.0	87	74

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3569, GENERAL INDUSTRIAL MACHINERY, N.E.C.															
1977 Census--	1 586	1 646	539	57.5	783.2	34.9	69.2	397.7	1 602.2	1 194.8	2 779.5	82.6	(NA)	621.2	88	86
1976 ASM----	(NA)	(NA)	(NA)	39.0	504.8	24.0	48.3	267.0	1 044.4	821.8	1 850.7	57.9	493.7	432.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	39.2	464.4	24.4	49.9	250.7	928.1	716.0	1 655.5	51.6	451.1	413.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	41.6	452.3	26.6	55.8	256.2	927.5	686.2	1 549.5	55.8	400.3	415.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	39.2	385.7	25.4	51.0	216.8	772.7	570.7	1 290.7	39.0	398.7	308.2	(NA)	(NA)
1972 Census--	564	901	360	37.0	351.8	24.0	48.2	196.5	697.7	483.7	1 171.9	31.3	393.6	254.3	85	81
1971 ASM----	(NA)	(NA)	(NA)	34.3	303.7	21.9	43.9	164.8	579.5	376.1	952.6	27.0	317.3	214.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	39.9	328.6	24.3	51.1	174.3	637.8	396.0	1 017.5	31.9	346.5	229.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	37.3	299.9	23.5	48.4	168.6	591.1	378.8	962.0	29.4	305.5	213.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	36.2	278.6	22.6	47.0	154.4	506.2	364.2	870.2	31.4	283.9	186.7	(NA)	(NA)
1967 Census--	725	758	346	39.4	295.4	25.4	52.3	163.2	535.9	379.8	901.2	30.5	286.0	194.8	85	79
1966 ASM----	(NA)	(NA)	(NA)	41.0	308.3	25.5	52.9	156.6	638.8	420.5	1 024.1	34.5	(NA)	189.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	38.9	278.4	23.4	47.9	135.6	517.4	347.4	855.6	27.5	(NA)	153.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	36.7	264.2	20.6	43.5	117.9	436.9	284.2	708.6	19.4	253.3	143.3	(NA)	(NA)
1963 Census--	568	777	277	35.6	240.8	20.3	40.9	109.4	424.1	272.7	691.3	15.1	238.2	123.4	83	70

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3561, PUMPS AND PUMPING EQUIPMENT										
1977 Census--	14 289	(NA)	63	1 996	6.37	45	69	(NA)	33 978	42	26.93
1976 ASM----	13 256	16 555	62	2 002	5.90	45	70	30	29 600	44	23.80
1975 ASM----	12 122	14 538	62	1 962	5.60	46	71	30	26 120	46	21.42
1974 ASM----	11 137	12 588	65	1 975	5.00	47	74	30	24 256	45	18.62
1973 ASM----	10 090	11 323	64	2 059	4.44	44	71	30	22 115	45	16.64
1972 Census--	9 601	11 160	63	2 016	4.22	44	72	32	19 740	48	15.30
	INDUSTRY 3562, BALL AND ROLLER BEARINGS										
1977 Census--	14 872	(NA)	81	1 997	7.03	44	73	(NA)	29 101	51	17.86
1976 ASM----	13 965	26 004	81	1 994	6.58	42	72	56	26 981	51	16.67
1975 ASM----	12 558	24 014	80	1 960	6.03	43	73	56	24 176	51	15.34
1974 ASM----	11 905	20 882	81	2 055	5.50	42	73	54	23 435	50	14.01
1973 ASM----	11 270	19 712	80	2 086	5.15	40	73	58	20 530	54	12.17
1972 Census--	10 324	19 390	81	2 014	4.84	39	74	64	18 296	56	11.16
1971 ASM----	9 234	20 405	79	1 937	4.47	38	73	76	16 151	57	10.44
1970 ASM----	8 607	16 576	80	1 942	4.11	39	76	70	14 432	59	9.22
1969 ASM----	8 666	15 426	81	2 073	3.93	40	77	64	14 484	59	8.57
1968 ASM----	7 843	14 913	80	2 029	3.62	38	72	65	14 369	54	8.80
1967 Census--	7 755	14 032	80	2 124	3.40	38	72	62	14 171	54	8.25
1966 ASM----	7 579	(NA)	81	2 168	3.33	39	73	(NA)	14 206	53	8.07
1965 ASM----	7 315	(NA)	81	2 144	3.21	39	72	(NA)	13 803	52	7.94
1964 ASM----	7 167	11 277	80	2 113	3.22	39	74	54	12 968	55	7.61
1963 Census--	6 667	10 843	80	2 047	3.05	37	72	56	12 001	55	7.29
	INDUSTRY 3563, AIR AND GAS COMPRESSORS										
1977 Census--	14 572	(NA)	59	2 001	6.67	45	68	(NA)	35 853	40	29.97
1976 ASM----	13 361	14 500	60	1 957	6.13	49	70	22	32 791	40	27.54
1975 ASM----	12 545	12 776	61	1 970	5.47	48	71	23	29 710	42	24.35
1974 ASM----	11 652	11 763	62	1 973	5.20	50	76	26	25 770	45	20.96
1973 ASM----	10 995	12 102	61	1 893	5.05	48	75	29	22 877	48	19.73
1972 Census--	9 895	13 069	58	2 014	4.31	46	72	34	20 414	48	17.18
	INDUSTRY 3564, BLOWERS AND FANS										
1977 Census--	12 728	(NA)	66	1 970	5.70	46	71	(NA)	27 707	45	21.14
1976 ASM----	12 153	12 421	67	1 926	5.39	46	70	24	27 555	44	21.09
1975 ASM----	11 428	12 254	65	1 831	5.37	47	71	25	24 520	46	20.38
1974 ASM----	10 114	9 889	67	2 010	4.46	50	75	24	21 380	47	15.65
1973 ASM----	9 842	9 561	67	2 061	4.14	45	71	25	21 359	46	15.37
1972 Census--	9 195	9 774	68	2 000	3.95	42	69	28	19 948	46	14.65
1971 ASM----	8 573	9 174	66	2 033	3.59	43	70	29	17 582	48	12.94
1970 ASM----	8 194	8 606	68	2 077	3.35	44	71	29	16 455	49	11.62
1969 ASM----	7 825	7 099	69	2 071	3.29	44	74	26	15 273	51	10.57
1968 ASM----	7 464	7 098	67	2 111	3.08	43	74	29	13 718	54	9.61
1967 Census--	7 104	6 652	70	2 114	2.95	42	70	26	14 390	49	9.59
1966 ASM----	7 072	(NA)	72	2 053	2.95	44	73	(NA)	14 162	49	9.49
1965 ASM----	6 764	(NA)	69	2 084	2.80	45	73	(NA)	13 123	51	9.06
1964 ASM----	6 814	6 927	70	2 149	2.75	43	74	30	12 662	53	8.31
1963 Census--	6 190	6 467	70	2 018	2.67	43	72	31	11 894	52	8.37

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3565, INDUSTRIAL PATTERNS											
1977 Census--	16 349	(NA)	85	1 980	7.73	22	70	(NA)	27 039	60	15.98
1976 ASM----	16 470	13 905	83	2 183	7.31	22	73	43	24 882	66	13.64
1975 ASM----	15 584	11 808	80	2 194	7.11	22	70	36	24 696	63	13.91
1974 ASM----	14 400	9 130	82	2 146	6.58	21	67	29	24 760	58	14.06
1973 ASM----	12 728	8 434	85	1 911	6.40	18	70	34	20 119	63	12.25
1972 Census--	12 129	8 647	87	1 878	6.13	19	71	37	18 941	64	11.58
1971 ASM----	10 341	7 929	84	1 944	5.10	21	65	34	18 035	57	10.95
1970 ASM----	9 798	6 548	85	1 876	4.93	22	71	32	15 317	63	9.53
1969 ASM----	10 685	7 066	88	1 817	5.57	19	73	36	15 933	67	9.89
1968 ASM----	9 267	7 089	92	1 774	4.72	19	69	38	15 029	61	9.20
1967 Census--	9 724	9 293	87	2 042	4.46	18	70	50	15 183	64	8.53
1966 ASM----	9 672	(NA)	87	2 102	4.48	22	72	(NA)	15 352	63	8.32
1965 ASM----	8 371	(NA)	87	1 924	4.29	23	73	(NA)	13 082	63	7.75
1964 ASM----	8 342	3 076	89	2 063	3.91	19	71	19	13 171	63	7.12
1963 Census--	7 636	2 919	87	2 034	3.66	20	74	20	11 373	67	6.36
INDUSTRY 3566, SPEED CHANGERS, DRIVES, AND GEARS											
1977 Census--	14 468	(NA)	69	1 990	6.46	35	65	(NA)	31 800	45	22.91
1976 ASM----	13 496	20 404	70	2 016	6.09	35	63	42	30 384	44	21.32
1975 ASM----	12 334	17 397	71	2 020	5.55	38	67	40	26 535	46	18.39
1974 ASM----	11 322	14 766	71	2 072	4.98	38	70	41	23 855	47	16.10
1973 ASM----	10 744	14 937	69	2 056	4.78	38	72	47	20 677	51	14.42
1972 Census--	9 964	15 853	69	1 961	4.49	36	71	56	18 177	54	13.36
INDUSTRY 3567, INDUSTRIAL FURNACES AND OVENS											
1977 Census--	13 743	(NA)	60	1 927	6.00	40	68	(NA)	30 799	44	26.25
1976 ASM----	13 796	11 187	57	1 934	6.20	43	70	22	28 045	49	25.37
1975 ASM----	12 992	10 739	58	1 962	5.84	45	72	22	26 304	49	22.83
1974 ASM----	11 993	8 518	63	2 059	4.93	45	74	20	24 177	49	18.36
1973 ASM----	10 912	8 328	63	2 022	4.61	45	75	22	21 510	50	16.74
1972 Census--	10 183	9 036	59	1 975	4.36	45	76	27	17 963	56	15.26
1971 ASM----	9 727	7 310	53	2 000	4.05	50	79	22	16 454	59	15.51
1970 ASM----	9 302	6 281	53	2 012	3.94	46	75	20	17 026	54	15.95
1969 ASM----	8 821	5 312	56	2 034	3.62	44	74	17	16 840	52	14.77
1968 ASM----	8 389	5 132	53	2 027	3.32	47	75	16	15 867	52	14.58
1967 Census--	8 031	4 242	55	2 056	3.18	47	73	13	16 111	49	14.17
1966 ASM----	7 846	(NA)	55	2 212	2.96	49	77	(NA)	14 888	52	12.02
1965 ASM----	7 937	(NA)	56	2 219	2.88	47	76	(NA)	15 031	52	11.96
1964 ASM----	7 560	5 032	56	2 202	2.73	48	77	19	13 796	54	11.16
1963 Census--	6 917	4 809	56	2 058	2.76	49	79	20	11 818	58	10.21
INDUSTRY 3568, POWER TRANSMISSION EQUIPMENT, N.E.C.											
1977 Census--	14 285	(NA)	73	1 922	6.69	39	68	(NA)	31 011	46	22.03
1976 ASM----	12 831	17 886	71	1 927	6.05	39	67	39	28 110	45	20.32
1975 ASM----	12 012	15 357	71	1 945	5.64	39	67	36	25 748	46	18.43
1974 ASM----	11 431	13 481	75	2 045	5.16	41	70	34	24 468	46	15.88
1973 ASM----	10 685	12 697	74	2 079	4.81	40	71	37	21 398	49	13.89
1972 Census--	9 620	12 660	74	2 028	4.35	38	69	40	19 653	48	12.96

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3569, GENERAL INDUSTRIAL MACHINERY, N.E.C.										
1977 Census--	13 627	(NA)	60	1 983	5.74	42	71	(NA)	27 878	48	23.14
1976 ASM----	12 943	12 658	61	2 012	5.52	44	71	26	26 779	48	21.62
1975 ASM----	11 846	11 507	62	2 045	5.02	43	71	27	23 676	50	18.59
1974 ASM----	10 872	9 622	63	2 097	4.59	44	73	25	22 295	48	16.62
1973 ASM----	9 839	10 170	64	2 007	4.25	44	74	30	19 711	49	15.15
1972 Census--	9 508	10 637	64	2 008	4.07	41	71	33	18 856	50	14.47
1971 ASM----	8 854	9 250	63	2 004	3.75	39	71	33	16 895	52	13.20
1970 ASM----	8 235	8 684	60	2 102	3.41	38	71	34	15 984	51	12.48
1969 ASM----	8 040	8 190	63	2 059	3.48	39	70	31	15 847	50	12.21
1968 ASM----	7 696	7 842	62	2 079	3.28	41	73	32	13 983	55	10.77
1967 Census--	7 497	7 258	64	2 059	3.12	42	74	31	13 601	55	10.24
1966 ASM----	7 519	(NA)	62	2 074	2.96	41	71	(NA)	15 580	48	12.07
1965 ASM----	7 156	(NA)	60	2 047	2.83	40	73	(NA)	13 300	53	10.80
1964 ASM----	7 198	6 901	56	2 111	2.71	40	77	35	11 904	60	10.04
1963 Census--	6 764	6 691	57	2 014	2.67	39	74	34	11 912	56	10.36

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3561, PUMPS AND PUMPING EQUIPMENT														
United States	-	**613**	**285**	**63.0**	**900.6**	**39.8**	**79.5**	**506.9**	**2 141.6**	**1 721.2**	**3 773.7**	**127.3**	**55.5**	**1 095.6**
New England Division:														
Maine	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	15	9	1.1	16.6	0.6	1.3	9.3	37.9	25.6	63.8	3.2	1.1	17.4
Rhode Island	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	E1	7	2	0.3	4.9	0.2	0.4	1.8	8.3	11.5	19.6	0.8	(NA)	(D)
Middle Atlantic Division:														
New York	-	27	15	2.7	37.6	1.5	3.0	20.6	100.8	96.2	199.6	(D)	2.6	48.9
New Jersey	-	27	10	3.0	46.6	1.7	3.4	23.5	110.9	90.3	210.4	3.7	2.8	63.0
Pennsylvania	-	33	16	3.7	56.7	2.4	5.1	31.5	123.0	115.9	231.0	8.0	3.0	86.3
East North Central Division:														
Ohio	-	51	26	9.3	129.9	5.9	11.8	75.5	291.5	195.5	476.0	15.7	6.9	129.2
Indiana	-	12	5	1.1	14.4	0.6	1.1	6.4	34.8	33.8	68.0	1.4	1.4	25.8
Illinois	-	42	19	4.9	69.5	3.3	6.6	42.5	134.0	122.8	252.0	8.3	4.3	83.4
Michigan	-	36	15	2.2	34.6	1.3	2.8	19.0	76.0	43.4	117.7	5.3	2.2	42.2
Wisconsin	-	29	14	2.5	37.3	1.5	3.1	21.7	88.1	80.0	163.8	5.8	2.3	51.2
West North Central Division:														
Minnesota	-	15	7	2.5	38.4	1.5	3.1	20.3	101.3	59.9	156.0	2.6	2.6	60.2
Iowa	-	12	7	2.5	37.2	1.6	3.1	20.1	84.6	85.8	160.3	8.1	(NA)	(D)
Missouri	-	7	5	0.9	13.3	0.7	1.2	8.8	26.2	21.4	44.3	(D)	(NA)	(D)
Nebraska	-	9	5	1.7	23.2	1.3	2.6	16.6	49.8	41.6	88.1	(D)	(NA)	(D)
Kansas	-	9	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.5	42.2
South Atlantic Division:														
Maryland	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	6	4	0.8	10.2	0.5	1.1	5.6	29.2	18.5	46.3	1.5	(NA)	(D)
Florida	E4	20	6	0.5	6.4	0.3	0.7	4.1	12.8	7.1	19.3	0.9	0.3	5.7
East South Central Division:														
Tennessee	-	9	4	0.7	7.3	0.4	0.8	4.1	22.1	14.4	36.4	2.0	(NA)	(D)
Mississippi	-	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	E1	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	-	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	17	9	1.8	24.1	1.1	2.1	11.7	83.3	48.7	128.7	2.4	2.7	41.7
Texas	-	64	32	3.7	52.4	2.6	5.2	33.5	134.2	112.3	243.0	6.3	3.0	58.6
Mountain Division:														
Colorado	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.7
Utah	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Oregon	-	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	89	42	8.1	122.2	4.5	9.2	63.6	301.1	277.1	540.5	17.9	(NA)	(D)
INDUSTRY 3562, BALL AND ROLLER BEARINGS														
United States	-	**149**	**104**	**50.6**	**752.6**	**41.3**	**82.4**	**579.9**	**1 472.7**	**1 139.9**	**2 567.3**	**132.9**	**50.9**	**931.3**
New England Division:														
New Hampshire	-	6	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	16	12	11.5	165.9	9.4	19.1	131.8	318.2	142.8	454.1	7.2	(NA)	(D)
Middle Atlantic Division:														
New York	-	13	7	3.2	43.3	2.5	5.1	32.5	83.5	48.0	131.7	2.1	(NA)	(D)
New Jersey	-	6	5	2.9	58.5	2.6	5.4	50.4	90.9	66.1	154.4	2.4	(NA)	(D)
Pennsylvania	-	18	11	3.7	54.9	3.0	6.0	42.7	116.3	93.2	205.0	(D)	4.8	91.2
East North Central Division:														
Ohio	-	11	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	11	10	3.4	46.7	2.4	4.5	28.9	101.2	65.9	161.7	7.1	4.8	95.9
Illinois	-	12	8	2.7	39.7	2.2	4.4	30.6	91.1	54.1	143.8	2.6	(NA)	(D)
Michigan	-	9	5	1.2	18.9	0.9	1.8	12.4	31.1	22.2	52.7	(D)	(NA)	(D)
West North Central Division:														
Iowa	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	9	8	3.9	45.6	3.3	7.2	35.9	120.5	114.8	228 1	16.1	2.2	46 0
Georgia	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	5	4	1.3	15.6	1.1	2.4	12.4	39.9	37.5	76 2	2 6	(NA)	(D)
Alabama	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Oklahoma	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	7	2	0.2	2.6	0.1	0.3	1.5	6.4	2.7	9 1	0 3	0 4	7 9

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3563, AIR AND GAS COMPRESSORS														
United States	-	**175**	**103**	**32.0**	**465.6**	**19.1**	**38.2**	**255.2**	**1 145.5**	**953.3**	**2 075.6**	**55.8**	**22.9**	**467.5**
New England Division:														
Massachusetts	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	14	10	6.9	105.3	4.1	7.7	59.2	288.4	168.3	450.1	7.9	(NA)	(D)
New Jersey	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	14	11	5.2	78.2	3.0	6.4	42.1	210.3	120.9	327.6	9.7	(NA)	(D)
East North Central Division:														
Ohio	-	11	8	4.5	58.6	2.8	5.2	30.5	128.3	123.1	247.3	3.5	(NA)	(D)
Indiana	-	5	4	3.2	43.7	1.6	3.5	23.6	89.7	107.0	185.4	(D)	(NA)	(D)
Illinois	-	18	17	4.2	58.5	2.7	5.5	35.4	165.4	138.1	296.4	6.0	(NA)	(D)
Michigan	-	6	3	0.7	11.8	0.5	1.0	8.5	27.9	31.8	58.0	1.5	(NA)	(NA)
Wisconsin	-	5	3	0.6	9.5	0.3	0.6	4.0	17.9	22.4	40.3	0.7	(NA)	(D)
West North Central Division:														
Missouri	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
North Carolina	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Oklahoma	-	9	5	0.4	6.5	0.3	0.6	3.7	12.0	15.4	27.7	0.9	(NA)	(D)
Texas	-	20	9	0.8	10.7	0.6	1.2	6.5	28.9	26.5	53.2	3.1	(NA)	(D)
Pacific Division:														
California	E1	18	7	0.6	10.7	0.4	0.9	6.1	14.9	15.1	31.9	0.4	(NA)	(D)
INDUSTRY 3564, BLOWERS AND FANS														
United States	-	**482**	**198**	**28.0**	**356.8**	**18.6**	**36.7**	**209.6**	**776.7**	**662.8**	**1 430.8**	**37.5**	**23.5**	**468.8**
New England Division:														
Massachusetts	-	15	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	14.1
Connecticut	-	8	4	1.0	12.1	0.7	1.6	7.8	24.8	20.0	45.3	1.1	(NA)	(D)
Middle Atlantic Division:														
New York	-	25	10	3.2	41.8	2.0	3.9	22.6	91.3	59.7	150.0	4.4	3.2	59.8
New Jersey	-	25	11	1.2	14.6	0.6	1.1	6.2	37.3	45.0	77.2	2.3	1.7	66.2
Pennsylvania	-	25	13	1.6	21.9	0.9	1.7	11.6	57.4	71.2	128.7	1.9	1.0	26.9
East North Central Division:														
Ohio	-	41	24	3.4	42.2	2.5	4.7	28.2	85.9	73.8	159.2	4.6	2.6	45.9
Indiana	-	14	8	2.1	28.4	1.5	2.9	19.0	54.6	40.6	94.8	3.5	1.8	32.2
Illinois	-	39	13	1.8	20.6	1.2	2.2	12.2	48.2	32.1	80.3	2.1	1.6	27.3
Michigan	-	22	10	1.5	21.4	0.9	1.8	11.5	43.0	33.7	77.5	1.5	1.5	29.1
Wisconsin	-	14	4	0.5	5.7	0.3	0.7	3.7	17.3	15.1	32.3	0.6	0.3	7.3
West North Central Division:														
Minnesota	-	22	8	1.2	15.9	0.7	1.4	9.3	32.9	24.7	56.6	1.1	0.6	15.4
Missouri	E1	10	3	0.3	3.7	0.2	0.5	2.3	8.7	6.7	15.2	0.3	(NA)	(D)
South Atlantic Division:														
Maryland	-	6	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	16	7	1.1	10.3	0.8	1.7	6.4	21.1	17.0	37.6	0.9	0.4	6.5
Georgia	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	E2	16	4	0.5	4.6	0.3	0.7	2.6	4.3	10.2	14.4	0.3	(NA)	(D)
East South Central Division:														
Kentucky	-	9	7	0.8	10.3	0.5	0.9	6.1	24.1	14.2	39.3	1.0	(NA)	(D)
Tennessee	-	11	6	0.7	9.4	0.4	0.7	3.6	19.8	20.4	40.3	0.7	0.4	6.2
Alabama	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	32	15	1.1	12.5	0.8	1.5	7.5	25.0	25.3	50.9	1.1	(NA)	(D)
Pacific Division:														
Oregon	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	55	25	2.5	31.7	1.8	3.5	19.6	65.1	54.5	119.8	2.4	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers						All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)		
INDUSTRY 3565, INDUSTRIAL PATTERNS													
United States	E2	1 002	115	9.3	152.7	8.0	15.8	122.2	252.5	72.0	320.6	11.1	8.5	161.0
New England Division:													
Massachusetts	E3	34	2	0.2	3.0	0.2	0.4	2.4	4.8	1.2	5.9	0.2	0.2	4.0
Middle Atlantic Division:													
New York	E3	48	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	5.0
New Jersey	E3	35	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	3.4
Pennsylvania	E2	82	9	0.7	8.7	0.6	1.1	7.0	12.8	4.0	16.5	0.4	0.6	9.9
East North Central Division:													
Ohio	E1	123	16	1.1	17.6	1.0	2.0	14.2	28.1	9.0	36.8	1.6	(NA)	(D)
Indiana	E1	36	6	0.4	7.9	0.3	0.7	6.3	12.9	2.9	15.6	0.4	(NA)	(D)
Illinois	E3	99	14	0.9	13.6	0.7	1.4	10.3	22.4	6.0	28.3	1.2	0.9	17.8
Michigan	E1	140	32	2.6	46.9	2.1	4.1	37.7	79.0	22.1	98.7	3.2	2.3	51.1
Wisconsin	E1	65	7	0.7	11.8	0.6	1.2	9.5	17.8	4.4	22.1	0.5	0.6	10.3
West North Central Division:													
Minnesota	–	19	1	0.2	2.9	0.1	0.3	2.2	4.6	2.4	6.9	0.1	(NA)	(NA)
Missouri	–	21	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:													
Alabama	–	17	4	0.2	3.4	0.2	0.5	2.8	6.5	2.7	8.9	0.4	(NA)	(D)
Pacific Division:													
Oregon	E1	14	3	0.2	2.6	0.1	0.3	2.1	3.9	0.9	4.7	0.1	(NA)	(NA)
California	E3	95	4	0.5	8.5	0.5	0.9	5.8	14.6	4.0	18.6	1.0	(NA)	(D)
INDUSTRY 3566, SPEED CHANGERS, DRIVES, AND GEARS													
United States	–	327	162	25.3	365.4	17.6	35.0	226.7	603.1	429.7	1 222.3	48.5	22.5	409.0
New England Division:													
Massachusetts	E1	23	10	1.3	17.3	0.8	1.6	9.4	43.3	25.5	88.0	2.6	(NA)	(D)
Connecticut	E5	9	4	0.4	4.0	0.3	0.5	2.1	12.4	5.4	17.7	0.3	(NA)	(D)
Middle Atlantic Division:													
New York	E1	31	11	1.0	14.6	0.8	1.6	9.4	28.6	14.0	42.3	1.8	1.0	15.3
New Jersey	–	15	8	1.0	15.8	0.8	1.5	10.5	29.6	16.7	45.6	1.3	0.8	12.4
Pennsylvania	–	21	14	2.4	37.6	1.7	3.5	24.5	78.4	50.4	128.7	5.0	2.7	46.6
East North Central Division:													
Ohio	–	26	16	2.7	37.4	1.9	3.6	23.5	83.0	45.5	128.7	8.0	1.6	28.5
Indiana	–	9	7	2.6	40.8	1.9	3.7	26.8	81.9	48.9	130.0	7.2	2.4	48.4
Illinois	–	42	31	4.1	58.9	2.9	5.8	36.4	127.5	60.8	186.3	5.5	4.0	71.4
Michigan	E1	26	11	1.0	14.2	0.7	1.5	9.1	31.5	18.3	49.3	1.4	0.9	18.9
Wisconsin	–	17	9	4.1	60.4	2.8	5.5	39.1	149.2	60.2	206.6	8.1	3.6	68.7
West North Central Division:													
Minnesota	E1	10	4	0.4	5.0	0.3	0.5	2.9	10.0	6.1	16.4	0.7	0.6	10.7
Iowa	–	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	E1	12	7	0.3	4.7	0.3	0.5	2.8	10.5	5.8	16.1	1.0	0.4	7.9
South Dakota	–	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	–	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:													
North Carolina	E1	7	4	0.3	4.1	0.2	0.5	2.5	6.9	4.0	10.9	0.5	0.3	3.9
South Carolina	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:													
Oklahoma	–	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:													
Colorado	–	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:													
California	E1	30	9	0.9	14.7	0.6	1.4	9.7	31.3	20.3	53.3	2.6	(NA)	(D)
INDUSTRY 3567, INDUSTRIAL FURNACES AND OVENS													
United States	–	327	137	15.2	209.4	9.3	17.9	107.4	469.3	305.4	746.3	13.4	13.6	244.3
New England Division:													
Maine	–	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	–	17	6	0.6	8.0	0.4	0.7	3.8	16.3	11.5	26.1	0.9	0.2	2.7
Rhode Island	–	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	–	8	4	0.5	6.0	0.3	0.6	3.5	12.6	9.0	21.3	0.4	0.2	3.9
Middle Atlantic Division:													
New York	E1	18	7	0.4	6.0	0.3	0.5	3.3	12.1	6.5	18.7	0.4	0.5	8.2
New Jersey	–	26	11	1.1	18.7	0.6	1.2	8.1	36.5	33.5	69.8	(D)	0.9	18.5
Pennsylvania	–	34	19	3.1	42.1	1.9	3.3	23.2	92.9	52.6	146.2	(D)	3.1	46.9
East North Central Division:													
Ohio	–	37	16	2.1	31.4	1.1	2.1	14.1	74.8	50.3	123.6	2.5	2.3	42.0
Indiana	–	11	3	0.8	10.9	0.6	1.1	6.8	21.6	12.6	33.4	(D)	(NA)	(D)
Illinois	–	16	10	1.2	15.1	0.8	1.7	8.5	31.0	16.9	47.8	1.3	0.8	19.0
Michigan	–	38	18	1.4	20.2	0.8	1.7	10.2	59.3	32.4	84.5	(D)	0.8	20.7
Wisconsin	–	11	8	0.8	9.7	0.4	0.8	4.4	21.4	12.1	32.7	0.5	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3567, INDUSTRIAL FURNACES AND OVENS—Con.														
West North Central Division:														
Minnesota	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	8	2	0.4	4.6	0.2	0.4	1.8	9.7	3.7	13.2	(D)	(NA)	(D)
East South Central Division:														
Alabama	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Oklahoma	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E2	12	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Utah	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	E1	49	10	0.9	11.5	0.6	1.1	5.5	23.7	16.3	39.4	0.4	1.4	29.5
INDUSTRY 3568, POWER TRANSMISSION EQUIPMENT, N.E.C.														
United States	-	**226**	**163**	**32.5**	**464.8**	**23.8**	**45.8**	**306.8**	**1 009.1**	**650.2**	**1 626.0**	**50.3**	**27.7**	**544.4**
New England Division:														
Massachusetts	-	12	10	1.8	24.3	1.3	2.4	15.9	58.4	27.9	85.4	2.0	(NA)	(D)
Connecticut	-	7	6	0.9	12.1	0.7	1.6	8.6	24.2	11.3	34.0	0.7	(NA)	(D)
Middle Atlantic Division:														
New York	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	12	7	0.5	6.0	0.4	0.7	3.6	13.6	6.5	19.4	(D)	(NA)	(D)
Pennsylvania	-	17	11	3.2	42.1	2.3	4.5	27.1	82.6	51.8	136.2	4.3	(NA)	(D)
East North Central Division:														
Ohio	-	30	23	2.3	30.8	1.7	3.3	20.9	65.4	44.6	109.4	3.4	1.8	35.5
Indiana	-	8	7	5.8	83.3	4.4	7.9	57.6	163.2	93.2	243.0	11.3	4.6	78.9
Illinois	-	20	15	4.5	67.7	3.1	6.1	42.4	142.6	93.0	231.4	5.9	2.9	62.5
Michigan	-	24	19	3.9	64.5	3.0	5.7	44.9	150.9	104.2	253.9	7.2	4.2	94.3
Wisconsin	-	15	12	2.6	40.6	1.9	3.5	26.9	90.8	55.4	144.1	4.4	2.2	56.6
West North Central Division:														
Minnesota	-	5	4	0.4	5.7	0.3	0.6	3.1	15.0	5.3	19.5	(D)	0.3	5.5
Iowa	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	10	8	0.8	10.9	0.6	1.3	7.6	24.3	14.3	37.0	1.4	(NA)	(D)
Mountain Division:														
Colorado	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Oregon	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	21	14	1.5	19.7	1.0	2.2	12.0	44.7	26.1	67.5	1.7	(NA)	(D)
INDUSTRY 3569, GENERAL INDUSTRIAL MACHINERY, N.E.C.														
United States	-	**1 646**	**539**	**57.5**	**783.2**	**34.9**	**69.2**	**397.7**	**1 602.2**	**1 194.8**	**2 779.5**	**82.6**	**37.0**	**597.7**
New England Division:														
New Hampshire	-	9	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	53	21	3.3	49.0	1.7	3.5	19.4	88.9	55.5	138.4	9.1	1.4	35.0
Rhode Island	-	11	3	0.2	2.1	0.1	0.2	1.1	3.6	2.7	6.2	0.2	(NA)	(D)
Connecticut	-	45	17	2.5	32.3	1.4	3.0	14.8	78.9	58.6	136.7	2.9	1.3	24.0
Middle Atlantic Division:														
New York	-	128	44	5.1	69.4	2.8	5.4	33.9	157.7	108.6	266.4	6.4	3.1	63.6
New Jersey	-	117	46	3.5	49.8	2.3	4.7	26.5	104.8	70.5	173.7	(D)	2.6	49.7
Pennsylvania	-	98	35	4.3	59.2	2.7	5.6	34.3	111.2	89.7	196.9	6.4	3.4	59.0
East North Central Division:														
Ohio	-	105	30	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.0	39.7
Indiana	-	33	13	1.1	14.1	0.8	1.5	8.5	31.5	24.5	54.2	1.1	0.8	15.9
Illinois	-	134	44	4.5	67.6	3.1	6.1	39.7	133.3	122.2	260.5	5.0	2.9	45.3
Michigan	-	133	38	4.0	57.8	2.4	4.9	29.6	144.8	71.7	210.0	7.6	2.9	60.5
Wisconsin	-	50	25	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.1	60.4
West North Central Division:														
Minnesota	-	43	15	1.3	16.5	0.8	1.7	9.8	31.6	21.0	52.0	1.1	0.7	22.2
Iowa	E2	20	3	0.2	2.5	0.1	0.2	1.3	4.3	3.3	7.3	0.2	(NA)	(NA)
Missouri	E1	19	4	0.4	4.5	0.2	0.4	2.2	7.5	6.6	13.9	0.5	0.3	3.9
Kansas	-	18	8	0.5	6.3	0.3	0.6	3.1	11.8	9.0	20.2	0.3	(NA)	(NA)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3569, GENERAL INDUSTRIAL MACHINERY, N.E.C.—Con.														
South Atlantic Division:														
Maryland	–	11	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	–	16	7	0.5	5.9	0.3	0.5	2.8	10.9	6.1	16.1	2.4	(NA)	(NA)
North Carolina	–	29	10	1.9	22.1	1.2	2.4	10.5	38.6	38.9	78.1	3.3	0.8	13.4
South Carolina	–	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	E1	29	9	0.8	9.0	0.5	1.1	5.3	17.5	16.2	33.4	(D)	0.5	9.4
Florida	E1	40	10	1.1	14.1	0.6	1.2	6.9	27.1	16.2	42.8	1.9	(NA)	(D)
East South Central Division:														
Kentucky	–	14	6	0.6	6.6	0.4	0.9	3.6	11.8	13.1	24.1	(D)	(NA)	(D)
Tennessee	–	21	10	0.6	6.0	0.4	0.7	3.4	12.0	7.9	20.0	0.9	0.7	9.9
Alabama	–	12	4	0.3	4.0	0.2	0.4	2.5	6.0	6.4	14.9	0.3	(NA)	(D)
West South Central Division:														
Arkansas	–	7	2	0.2	1.5	0.1	0.2	0.9	2.9	2.0	4.6	0.3	(NA)	(NA)
Louisiana	E1	14	6	0.3	2.9	0.2	0.3	1.6	4.5	6.8	12.3	0.2	(NA)	(NA)
Oklahoma	–	29	6	0.8	9.3	0.5	0.8	4.1	16.9	15.2	33.7	(D)	(NA)	(D)
Texas	E1	84	23	2.0	22.8	1.4	2.5	13.2	46.2	42.6	87.2	3.4	0.9	12.4
Mountain Division:														
Colorado	–	13	3	0.2	2.9	0.1	0.2	1.9	5.5	2.8	8.3	(D)	(NA)	(NA)
New Mexico	–	7	1	0.2	2.0	0.1	0.2	1.3	4.6	4.5	9.1	0.3	(NA)	(NA)
Utah	–	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	–	26	6	0.5	6.5	0.3	0.6	3.3	13.1	12.3	25.0	1.1	(NA)	(NA)
Oregon	–	13	2	0.3	4.4	0.2	0.3	1.9	6.3	5.8	12.1	0.2	(NA)	(D)
California	–	223	68	6.2	90.4	3.4	6.7	41.2	161.1	128.7	292.7	7.2	3.5	63.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Pumps and pumping equipment (SIC 3561)	Ball and roller bearings (SIC 3562)	Air and gas compressors (SIC 3563)	Blowers and fans (SIC 3564)	Industrial patterns (SIC 3565)	Speed changers, drives, and gears (SIC 3566)	Industrial furnaces and ovens (SIC 3567)	Power transmission equipment, n.e.c. (SIC 3568)	General industrial machinery, n.e.c. (SIC 3569)
Primary product specialization ratio[1]	percent	88	96	88	89	97	87	91	82	88
Coverage ratio[2]	do	88	98	89	87	75	84	90	74	86
All establishments	number	613	149	175	482	1 002	327	327	226	1 646
With 1 to 19 employees	do	328	45	72	284	887	165	190	63	1 107
With 20 to 99 employees	do	149	28	51	119	108	112	99	93	412
With 100 employees or more	do	136	76	52	79	7	50	38	70	127
All employees, average for year	1,000	63.0	50.6	32.0	28.0	9.3	25.3	15.2	32.5	57.5
Payroll for year, all employees	mil. dol.	900.6	752.6	465.6	356.8	152.7	365.4	209.4	464.8	783.2
Production workers:										
Average for year	1,000	39.8	41.3	19.1	18.6	8.0	17.6	9.3	23.8	34.9
March	do	38.6	40.6	18.6	18.2	7.8	17.4	9.1	23.3	34.8
May	do	39.4	40.8	19.0	18.6	8.1	17.5	9.1	23.6	35.3
August	do	40.4	41.3	19.5	18.7	8.0	17.6	9.4	24.0	34.8
November	do	40.8	42.4	19.4	19.1	7.7	17.8	9.5	24.3	34.9
Hours	millions	79.5	82.4	38.2	36.7	15.8	35.0	17.9	45.8	69.2
January to March	do	19.4	20.4	9.0	9.0	4.2	9.0	4.5	11.0	17.0
April to June	do	19.9	21.1	9.7	9.2	3.9	8.9	4.6	11.8	17.7
July to September	do	19.7	20.1	9.5	9.2	3.8	8.3	4.5	11.4	17.1
October to December	do	20.6	20.9	10.0	9.3	3.9	8.9	4.4	11.7	17.4
Wages	mil. dol.	506.9	579.9	255.2	209.6	122.2	226.7	107.4	306.8	397.7
Cost of materials, etc.	do	1 721.2	1 139.9	953.3	662.8	72.0	429.7	305.4	650.2	1 194.8
Materials, parts, containers, etc., consumed	do	1 489.1	1 018.6	858.8	515.1	53.4	364.6	280.8	550.4	1 027.1
Resales	do	158.3	43.7	39.2	30.9	0.6	23.8	11.4	58.5	79.0
Fuels consumed	do	11.0	24.5	8.9	5.4	1.2	6.6	2.3	10.7	7.9
Purchased electric energy	do	26.1	33.6	11.2	8.8	2.2	10.6	4.6	15.6	16.9
Contract work	do	36.6	19.6	35.1	102.5	14.6	24.1	6.3	15.0	63.8
Value of shipments, including resales	do	3 773.7	2 567.3	2 075.6	1 430.8	320.6	1 222.3	746.3	1 626.0	2 779.5
Value of resales	do	197.8	59.8	58.3	39.5	0.8	39.3	16.3	79.8	106.4
Value added by manufacture	do	2 141.6	1 472.7	1 145.5	776.7	252.5	803.1	469.3	1 009.1	1 602.2
Manufacturers' inventories:										
Beginning of year	do	925.1	569.0	589.0	232.6	20.6	283.6	118.1	381.8	578.2
Finished products	do	258.3	157.2	216.1	31.6	2.8	97.6	17.5	152.3	138.6
Work in process	do	443.7	270.6	281.5	97.6	12.8	129.0	52.4	141.0	241.2
Materials, supplies, fuel, etc.	do	223.2	141.2	91.3	103.4	5.0	57.0	48.2	88.5	198.4
End of year	do	1 024.0	621.7	610.9	242.9	25.2	297.8	151.4	418.8	621.2
Finished products	do	296.2	182.3	237.4	38.7	3.7	101.5	27.9	170.2	140.2
Work in process	do	494.8	290.8	283.5	99.1	15.8	135.5	70.4	156.4	257.1
Materials, supplies, fuel, etc.	do	233.0	148.6	90.0	105.1	5.7	60.8	53.1	92.2	223.8
Capital expenditures for plant and equipment	do	136.4	143.5	58.3	41.8	12.3	53.0	14.8	54.7	90.8
New capital expenditures	do	127.3	132.9	55.8	37.5	11.1	48.5	13.4	50.3	82.6
New buildings and other structures	do	26.9	21.6	10.8	11.2	2.1	11.6	2.6	8.1	22.8
New machinery and equipment	do	100.4	111.3	45.0	26.3	9.0	36.9	10.8	42.3	59.8
Used capital expenditures	do	9.1	10.6	2.5	4.3	1.2	4.4	1.4	4.4	8.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Pumps and pumping equipment (SIC 3561)		Ball and roller bearings (SIC 3562)		Air and gas compressors (SIC 3563)		Blowers and fans (SIC 3564)		Industrial patterns (SIC 3565)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	5.6	6	(3.8)	15	3.9	7	(2.2)	21	(0.6)	42
Response coverage ratio[2] (percent)	70	(X)	66	(X)	69	(X)	63	(X)	49	(X)
Machinery	18.2	5	14.9	6	7.5	4	5.2	13	(1.1)	37
Response coverage ratio[2] (percent)	71	(X)	61	(X)	62	(X)	74	(X)	51	(X)
Cost of purchased communication services	15.0	6	4.7	12	10.2	5	(7.5)	16	(0.6)	34
Response coverage ratio[2] (percent)	74	(X)	48	(X)	61	(X)	76	(X)	51	(X)
Rental payments	19.9	4	10.1	3	15.2	2	9.4	11	(4.7)	19
Buildings and other structures	6.8	12	2.7	8	5.2	5	(5.1)	19	(3.6)	25
Machinery and equipment	13.1	3	7.3	4	10.0	3	4.2	7	(1.1)	49
Supplemental labor costs	176.5	2	195.0	1	100.9	1	66.8	3	20.8	8
Legal costs	71.8	1	58.6	1	36.3	1	28.7	3	10.5	8
Voluntary costs	104.6	2	136.5	2	64.6	2	38.1	4	10.2	14
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	267.5	3	281.8	2	128.1	2	128.5	6	(23.1)	20
New capital expenditures	27.1	10	21.3	3	10.9	5	13.9	12	(1.7)	52
Used capital expenditures	1.1	1	0.8	1	(0.3)	86	(3.1)	17	0.1	1
Retirements	3.6	10	0.8	10	6.3	8	2.1	8	(0.9)	46
End of year	292.2	3	303.1	2	133.0	2	143.4	6	(24.0)	19
Machinery and equipment:										
Beginning of year	705.6	2	1,023.9	1	328.4	4	188.1	5	66.5	14
New capital expenditures	101.1	9	112.5	2	46.4	4	27.3	10	(8.7)	33
Automobiles, trucks, etc., for highway use[3]	(1.4)	(A)	(2.6)	(A)	(1.2)	(A)	(1.2)	(A)	(0.5)	(A)
Computers and peripheral data processing equipment[3]	(1.6)	(A)	(0.9)	(A)	(1.6)	(A)	(0.5)	(A)	(0.7)	(A)
All other[3]	(84.6)	24	(108.3)	18	(40.8)	49	(21.4)	(A)	(1.2)	(A)
New machinery and equipment, n.s.k.[4]	(13.4)	(A)	(0.6)	(A)	(2.8)	(A)	(4.2)	(A)	(6.4)	(A)
Used capital expenditures	8.0	9	9.9	2	2.2	4	(1.8)	33	(1.3)	51
Retirements	22.3	6	38.5	2	18.4	4	9.6	11	(4.5)	33
End of year	792.4	2	1,107.7	1	358.6	4	207.5	5	72.0	13
Total gross value of depreciable assets:										
Beginning of year	973.1	2	1,305.7	1	456.4	3	316.6	5	89.6	13
New capital expenditures	128.2	8	133.8	1	57.3	4	41.2	9	(10.4)	35
Used capital expenditures	9.1	8	10.7	2	2.5	11	(4.9)	17	(1.4)	48
Retirements	25.8	7	39.4	2	24.7	5	11.7	9	(5.3)	29
End of year	1,084.5	2	1,410.8	1	491.5	3	350.9	5	96.1	12
Depreciation charges during 1977	69.7	3	82.1	6	36.7	6	18.8	4	(6.7)	15
Buildings and other structures	10.6	3	(12.4)	20	6.7	7	4.9	5	(1.1)	22
Machinery and equipment	59.0	3	69.7	4	29.9	6	13.9	5	(5.5)	18

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Speed changers, drives, and gears (SIC 3566)		Industrial furnaces and ovens (SIC 3567)		Power transmission equipment, n.e.c. (SIC 3568)		General industrial machinery, n.e.c. (SIC 3569)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	2.7	8	0.8	13	(3.0)	(A)	(5.3)	54
Response coverage ratio[2] (percent)	58	(X)	53	(X)	59	(X)	60	(X)
Machinery	16.1	3	(1.7)	27	(10.4)	(A)	(7.7)	17
Response coverage ratio[2] (percent)	57	(X)	50	(X)	64	(X)	61	(X)
Cost of purchased communication services	(26.1)	(A)	4.1	13	(5.6)	(A)	14.5	9
Response coverage ratio[2] (percent)	70	(X)	68	(X)	64	(X)	60	(X)
Rental payments	8.9	7	5.5	12	9.5	6	26.1	8
Buildings and other structures	3.1	14	(2.9)	19	(2.8)	20	14.7	12
Machinery and equipment	5.8	7	2.7	10	6.7	1	11.4	11
Supplemental labor costs	72.7	2	40.7	4	119.3	2	130.4	2
Legal costs	27.7	2	16.5	5	37.9	1	58.9	2
Voluntary costs	45.0	2	24.2	4	81.4	2	71.5	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	107.0	5	70.7	8	134.1	2	226.7	5
New capital expenditures	12.1	7	(2.5)	49	(8.9)	16	22.9	14
Used capital expenditures	(1.2)	37	0.7	1	0.9	8	(3.8)	64
Retirements	(1.1)	17	(0.7)	16	1.1	5	(6.2)	25
End of year	119.1	4	73.3	7	142.8	2	247.2	5
Machinery and equipment:								
Beginning of year	422.1	3	85.5	7	447.7	3	413.8	4
New capital expenditures	44.6	8	13.7	12	43.3	6	58.9	8
Automobiles, trucks, etc., for highway use[3]	(1.2)	(A)	(0.3)	(A)	(0.3)	(A)	(3.3)	(A)
Computers and peripheral data processing equipment[3]	(1.6)	(A)	(0.7)	(A)	(0.3)	(A)	(2.1)	(A)
All other[3]	(34.6)	58	(11.0)	(A)	(36.0)	56	(41.4)	48
New machinery and equipment, n.s.k.[4]	(7.2)	(A)	(1.7)	(A)	(6.7)	(A)	(12.1)	(A)
Used capital expenditures	(8.3)	42	(1.4)	57	2.9	2	4.5	8
Retirements	10.0	7	2.4	14	21.0	11	19.3	12
End of year	465.0	3	98.2	6	472.9	2	457.9	4
Total gross value of depreciable assets:								
Beginning of year	529.0	3	156.3	6	581.8	2	640.5	1
New capital expenditures	56.6	6	(16.2)	17	52.1	7	81.9	9
Used capital expenditures	(9.5)	39	(2.1)	37	3.7	3	(8.3)	30
Retirements	11.1	7	3.1	13	22.1	10	25.5	12
End of year	584.1	3	171.6	5	615.6	2	705.2	1
Depreciation charges during 1977	43.3	7	10.1	5	38.9	3	45.0	5
Buildings and other structures	(8.2)	34	2.6	9	4.9	4	9.7	5
Machinery and equipment	35.1	3	7.5	6	33.9	3	35.2	5

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

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Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3561, PUMPS AND PUMPING EQUIPMENT												
Total	-	**613**	**83.0**	**900.5**	**39.8**	**79.5**	**506.9**	**2 141.6**	**1 721.2**	**3 773.7**	**127.3**	**1 024.0**
Establishments with an average of—												
1 to 4 employees	E8	146	0.2	3.1	0.2	0.3	1.7	6.5	6.0	13.4	1.2	3.7
5 to 9 employees	E7	106	0.7	9.3	0.4	0.9	5.1	21.9	18.8	40.1	1.9	11.5
10 to 19 employees	E5	76	1.1	14.3	0.7	1.4	7.8	32.6	28.3	60.1	2.1	15.9
20 to 49 employees	E1	94	3.2	42.1	2.1	4.2	23.9	103.3	100.1	200.3	8.5	54.1
50 to 99 employees	-	55	3.9	52.1	2.4	5.0	28.3	122.3	120.4	238.9	7.0	60.0
100 to 249 employees	-	59	9.4	124.8	6.0	12.0	69.3	317.9	289.3	590.4	21.0	135.7
250 to 499 employees	-	46	16.2	235.8	9.8	19.5	129.4	571.5	443.7	985.0	38.8	260.1
500 to 999 employees	-	20	14.1	203.9	8.9	18.4	118.4	521.6	365.7	862.8	26.5	261.9
1,000 to 2,499 employees	-	11	14.2	215.3	9.3	17.9	122.9	443.9	348.8	782.7	20.1	221.2
Covered by administrative records[2]	E0	247	1.4	18.8	0.9	1.8	10.5	43.6	35.5	79.1	2.7	22.2
INDUSTRY 3562, BALL AND ROLLER BEARINGS												
Total	-	**149**	**50.6**	**752.6**	**41.3**	**82.4**	**579.9**	**1 472.7**	**1 139.9**	**2 567.3**	**132.9**	**621.7**
Establishments with an average of—												
1 to 4 employees	E8	21	(Z)	0.6	(Z)	0.1	0.4	1.1	0.9	2.0	0.1	0.4
5 to 9 employees	E3	6	(Z)	0.5	(Z)	0.1	0.4	1.0	1.2	2.2	(Z)	0.3
10 to 19 employees	E5	17	0.2	3.2	0.2	0.4	2.3	6.3	4.2	10.3	0.4	2.6
20 to 49 employees	-	12	0.4	4.6	0.3	0.7	3.3	13.5	6.6	19.5	1.3	4.2
50 to 99 employees	-	16	1.1	13.5	0.9	1.8	9.2	31.8	34.5	65.2	8.7	16.3
100 to 249 employees	-	24	4.0	47.5	3.3	6.6	35.0	134.5	95.2	224.4	9.6	50.5
250 to 499 employees	-	25	8.6	114.4	6.9	14.1	85.4	282.4	185.9	456.1	46.9	121.8
500 to 999 employees	-	17	11.5	152.4	9.0	18.1	109.6	299.5	229.2	521.5	36.5	158.0
1,000 to 2,499 employees	-	7	10.5	171.5	8.7	17.3	139.0	299.1	312.5	599.5	13.1	119.9
2,500 employees or more	-	4	14.2	244.5	12.0	23.3	195.3	403.5	269.7	666.5	16.3	147.6
Covered by administrative records[2]	E0	27	0.1	2.0	0.1	0.2	1.4	3.5	2.6	6.1	0.3	1.5
INDUSTRY 3563, AIR AND GAS COMPRESSORS												
Total	-	**175**	**32.0**	**465.6**	**19.1**	**38.2**	**255.2**	**1 145.5**	**953.3**	**2 075.6**	**55.8**	**610.9**
Establishments with an average of—												
1 to 4 employees	E6	40	0.1	1.0	0.1	0.1	0.5	1.3	2.7	5.3	(2.1)	1.6
5 to 9 employees	E3	14	0.1	1.2	0.1	0.1	0.7	3.7	3.1	6.0	(D)	2.5
10 to 19 employees	E3	18	0.2	4.3	0.2	0.3	2.7	10.1	11.8	20.9	0.7	5.5
20 to 49 employees	-	30	0.9	11.4	0.6	1.2	6.3	24.2	30.4	54.0	1.2	13.7
50 to 99 employees	-	21	1.5	18.6	1.0	2.1	11.7	39.7	45.0	84.5	3.6	25.6
100 to 249 employees	-	24	3.6	49.6	2.5	4.8	27.9	127.4	113.4	229.7	3.9	53.8
250 to 499 employees	-	8	2.6	38.3	1.5	2.9	20.8	99.8	97.6	188.6	4.9	51.1
500 to 999 employees	-	12	9.0	138.8	5.0	10.7	71.6	311.5	315.9	639.4	(39.4)	184.4
1,000 to 2,499 employees	-	6	(13.9)	(202.4)	(8.2)	(15.9)	(113.0)	(527.8)	(333.4)	(847.2)	(D)	(272.6)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	38	0.2	2.4	0.1	0.2	1.3	5.7	5.8	11.5	0.3	3.8
INDUSTRY 3564, BLOWERS AND FANS												
Total	-	**482**	**28.0**	**356.8**	**18.6**	**36.7**	**209.6**	**776.7**	**662.8**	**1 430.8**	**37.5**	**242.9**
Establishments with an average of—												
1 to 4 employees	E8	135	0.2	2.9	0.2	0.3	1.6	4.7	5.3	11.2	0.3	1.8
5 to 9 employees	E8	60	0.4	4.8	0.3	0.5	2.7	10.4	9.3	19.6	0.9	3.1
10 to 19 employees	E5	89	1.2	15.2	0.8	1.6	8.6	30.2	29.4	59.4	4.8	9.0
20 to 49 employees	-	79	2.6	30.5	1.8	3.5	17.3	73.7	56.9	129.9	3.4	19.0
50 to 99 employees	-	40	2.8	34.0	2.1	4.3	22.1	81.5	66.6	148.8	2.8	23.8
100 to 249 employees	-	53	8.5	104.0	5.6	10.8	59.8	219.3	209.3	422.0	11.5	86.5
250 to 499 employees	-	20	7.4	92.1	4.9	9.8	57.0	196.4	164.3	359.8	8.3	57.1
500 to 999 employees	-	5	(4.9)	(73.3)	(3.0)	(5.9)	(40.4)	(160.4)	(121.6)	(280.0)	(5.6)	(42.6)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	207	1.2	14.6	0.8	1.5	8.2	29.3	26.4	55.7	1.6	9.1
INDUSTRY 3565, INDUSTRIAL PATTERNS												
Total	E1	**1 002**	**9.3**	**152.7**	**8.0**	**15.8**	**122.2**	**252.5**	**72.0**	**320.6**	**11.1**	**25.2**
Establishments with an average of—												
1 to 4 employees	E8	480	0.9	12.8	0.9	1.4	10.3	26.3	6.9	33.2	1.9	2.3
5 to 9 employees	E3	235	1.6	23.9	1.4	2.8	19.3	40.1	11.0	50.9	1.6	3.3
10 to 19 employees	-	172	2.3	36.7	2.0	4.3	29.5	59.8	15.6	75.0	1.4	4.7
20 to 49 employees	-	94	2.8	46.2	2.3	4.7	36.7	71.7	22.2	92.4	4.0	7.7
50 to 99 employees	-	14	0.9	17.9	0.7	1.2	14.6	27.4	6.4	33.2	0.9	3.3
100 to 249 employees	-	7	0.9	15.2	0.8	1.3	11.9	27.2	9.9	35.9	1.3	4.0
Covered by administrative records[2]	E0	519	1.4	20.4	1.3	2.3	16.4	39.1	10.4	49.5	2.8	3.6
INDUSTRY 3566, SPEED CHANGERS, DRIVES, AND GEARS												
Total	-	**327**	**25.3**	**365.4**	**17.6**	**35.0**	**226.7**	**803.1**	**429.7**	**1 222.3**	**48.5**	**297.8**
Establishments with an average of—												
1 to 4 employees	E8	72	0.1	1.9	0.1	0.2	1.2	3.7	2.2	6.4	0.4	1.5
5 to 9 employees	E8	43	0.3	3.7	0.2	0.4	2.4	9.2	5.0	14.4	0.8	3.4
10 to 19 employees	E6	50	0.7	9.9	0.5	1.1	6.3	21.4	10.1	31.6	1.9	6.1
20 to 49 employees	E1	66	2.1	29.8	1.6	3.3	19.7	59.7	31.7	90.8	3.2	13.7
50 to 99 employees	-	46	3.3	42.1	2.4	4.8	25.2	86.2	56.7	141.3	4.6	28.7
100 to 249 employees	-	29	4.7	66.4	3.4	6.8	41.5	141.9	78.9	219.0	7.5	51.7
250 to 499 employees	-	13	4.7	71.2	3.2	6.5	45.3	149.2	97.2	247.1	9.7	54.8
500 to 999 employees	-	5	(9.3)	(140.3)	(6.2)	(11.9)	(85.1)	(331.3)	(147.8)	(471.7)	(20.4)	(138.0)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	135	0.9	12.5	0.7	1.3	8.0	28.2	14.8	43.0	2.4	10.2

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3567, INDUSTRIAL FURNACES AND OVENS												
Total	-	**327**	**15.2**	**209.4**	**9.3**	**17.9**	**107.4**	**469.3**	**305.4**	**746.3**	**13.4**	**151.4**
Establishments with an average of—												
1 to 4 employees	E8	91	0.1	1.9	0.1	0.2	1.0	6.4	1.0	7.4	0.1	1.2
5 to 9 employees	E6	40	0.3	4.0	0.2	0.4	2.1	11.7	2.9	14.5	0.2	2.1
10 to 19 employees	E1	59	0.8	10.7	0.5	1.0	5.7	23.2	15.7	38.7	0.6	5.9
20 to 49 employees	-	71	2.1	29.0	1.3	2.4	14.1	66.8	44.0	108.7	2.5	17.9
50 to 99 employees	-	28	2.1	27.7	1.4	2.8	15.0	57.8	36.8	89.4	1.6	21.3
100 to 249 employees	-	24	3.8	50.9	2.2	4.4	25.1	113.5	79.5	185.4	2.1	40.5
250 to 499 employees	-	11	(5.9)	(85.2)	(3.5)	(6.7)	(44.4)	(189.8)	(125.5)	(302.2)	(6.3)	(62.4)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	108	0.4	5.0	0.2	0.4	2.6	15.5	2.3	17.8	0.3	3.0
INDUSTRY 3568, POWER TRANSMISSION EQUIPMENT, N.E.C.												
Total	-	**226**	**32.5**	**464.8**	**23.8**	**45.8**	**306.8**	**1 009.1**	**650.2**	**1 626.0**	**50.3**	**418.8**
Establishments with an average of—												
1 to 4 employees	E7	19	(Z)	0.4	(Z)	(Z)	0.3	1.0	0.7	1.9	0.1	0.5
5 to 9 employees	E6	18	0.1	1.6	0.1	0.2	1.0	4.0	2.5	6.5	0.2	1.8
10 to 19 employees	E2	26	0.4	5.3	0.3	0.5	3.2	12.4	9.0	21.4	1.1	5.4
20 to 49 employees	-	58	1.8	23.6	1.4	2.7	14.9	49.9	41.0	89.7	2.5	20.4
50 to 99 employees	-	35	2.4	30.8	1.7	3.4	18.5	78.7	46.7	121.5	3.5	28.9
100 to 249 employees	-	34	5.5	73.5	4.1	7.9	49.2	156.3	97.8	251.4	8.1	62.0
250 to 499 employees	-	21	7.3	101.3	5.2	10.5	67.8	212.4	120.9	331.0	8.1	95.8
500 to 999 employees	-	9	6.4	97.2	4.6	8.8	66.9	220.5	152.7	368.4	10.9	78.1
1,000 to 2,499 employees	-	6	8.7	131.2	6.4	11.7	85.1	273.9	179.0	434.3	16.1	126.1
Covered by administrative records[2]	E0	38	0.3	3.5	0.2	0.4	2.3	7.5	4.7	12.2	0.4	3.2
INDUSTRY 3569, GENERAL INDUSTRIAL MACHINERY, N.E.C.												
Total	-	**1 646**	**57.5**	**783.2**	**34.9**	**69.2**	**397.7**	**1 602.2**	**1 194.8**	**2 779.5**	**82.6**	**621.2**
Establishments with an average of—												
1 to 4 employees	E6	353	0.7	9.0	0.5	0.8	4.8	16.9	15.6	33.8	0.9	6.4
5 to 9 employees	E2	372	2.6	33.2	1.6	3.2	17.7	64.7	45.4	108.9	3.4	18.1
10 to 19 employees	-	382	5.1	61.1	3.1	6.0	32.8	115.8	89.1	201.8	5.8	32.8
20 to 49 employees	-	270	8.4	107.7	5.5	10.6	59.7	218.9	166.7	380.8	11.2	70.0
50 to 99 employees	E1	142	10.1	134.0	6.6	12.9	74.2	278.6	211.5	483.1	12.9	105.4
100 to 249 employees	-	88	13.3	190.6	8.0	16.3	95.6	398.3	302.8	699.9	20.9	167.6
250 to 499 employees	-	29	10.2	135.6	6.0	12.2	65.8	284.6	215.3	497.0	18.8	131.6
500 to 999 employees	-	10	7.1	111.8	3.6	7.2	47.3	224.4	148.4	374.3	8.7	89.4
Covered by administrative records[2]	E9	331	1.2	14.7	0.8	1.4	7.8	30.9	25.0	55.9	1.6	11.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3561	**Pumps and pumping equipment:**										
	Entire industry	613	63.0	900.6	39.8	79.5	506.9	2 141.6	1 721.2	3 773.7	127.3
	Establishments with 75 percent specialization or more	562	48.6	691.7	30.5	61.9	392.6	1 689.4	1 397.1	3 013.9	105.0
35611	Industrial pumps, except fluid power pumps:										
	Establishments with this product class primary	119	26.9	395.3	16.1	32.0	207.7	941.3	826.9	1 737.6	55.9
	Establishments with 75 percent specialization or more in class	68	10.2	146.0	6.0	12.7	75.5	345.0	348.5	663.3	21.6
35612	Hydraulic fluid power pumps and motors:										
	Establishments with this product class primary	38	12.6	177.3	8.7	17.8	112.5	361.6	285.8	620.7	26.2
	Establishments with 75 percent specialization or more in class	23	4.8	67.1	3.3	6.8	41.4	147.1	142.5	269.6	14.1
35613	Domestic water systems and pumps:										
	Establishments with this product class primary	20	3.8	46.2	2.3	4.9	27.3	130.9	130.9	248.9	7.2
	Establishments with 75 percent specialization or more in class	10	0.2	2.8	0.1	0.3	1.8	13.0	12.4	24.8	2.2
35615	Other pumps and pumping equipment:										
	Establishments with this product class primary	50	6.7	93.9	4.3	8.1	52.1	243.7	172.3	406.8	9.4
	Establishments with 75 percent specialization or more in class	26	2.5	32.0	1.8	3.4	20.3	74.9	64.5	134.4	3.4
35616	Parts and attachments for pumps:										
	Establishments with this product class primary	53	10.1	147.7	6.5	13.0	85.5	373.1	229.5	591.0	21.1
	Establishments with 75 percent specialization or more in class	32	4.0	59.9	2.8	5.9	37.8	118.2	79.9	196.6	9.5
3562	**Ball and roller bearings:**										
	Entire industry	149	50.6	752.6	41.3	82.4	579.9	1 472.7	1 139.9	2 567.3	132.9
	Establishments with 75 percent specialization or more	141	49.0	734.1	40.0	79.9	566.9	1 410.4	1 096.5	2 463.9	128.4
35621	Ball bearings, complete:										
	Establishments with this product class primary	44	22.3	330.2	18.2	36.9	252.8	626.0	339.2	947.4	34.4
	Establishments with 75 percent specialization or more in class	30	9.3	119.0	7.4	15.1	88.2	235.5	168.3	392.8	16.3
35622	Taper roller bearings (including cups and cones):										
	Establishments with this product class primary	12	12.6	222.5	10.8	20.8	180.6	358.7	482.1	830.4	(D)
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35623	Roller bearings, except taper, complete:										
	Establishments with this product class primary	25	10.4	129.2	8.2	16.5	95.8	309.6	189.3	490.0	21.6
	Establishments with 75 percent specialization or more in class	12	2.6	32.6	2.0	4.0	23.0	72.2	36.6	103.8	4.8
35624	Mounted bearings, except plain:										
	Establishments with this product class primary	13	3.3	45.0	2.5	5.0	31.7	120.7	85.9	199.0	8.4
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35629	Ball and roller bearing parts and components:										
	Establishments with this product class primary	16	1.6	21.0	1.3	2.6	15.6	48.3	37.2	85.0	2.6
	Establishments with 75 percent specialization or more in class	14	1.4	17.7	1.1	2.3	13.3	42.2	32.0	73.6	1.9
3563	**Air and gas compressors:**										
	Entire industry	175	32.0	465.6	19.1	38.2	255.2	1 145.5	953.3	2 075.6	55.8
	Establishments with 75 percent specialization or more	150	23.1	335.4	13.9	27.1	184.9	821.0	739.3	1 541.8	40.1
35631	Air and gas compressors and vacuum pumps:										
	Establishments with this product class primary	81	26.2	379.0	15.4	30.5	204.3	958.9	789.9	1 730.3	50.8
	Establishments with 75 percent specialization or more in class	53	9.5	126.4	5.9	11.4	69.6	315.0	319.0	610.6	20.3
35632	Parts for air and gas compressors and vacuum pumps:										
	Establishments with this product class primary	12	1.4	19.2	0.9	1.9	12.0	49.9	35.2	84.5	1.2
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35635	Industrial spraying equipment:										
	Establishments with this product class primary	21	3.9	60.8	2.4	5.2	35.5	122.0	112.6	230.0	2.9
	Establishments with 75 percent specialization or more in class	16	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3564	**Blowers and fans:**										
	Entire industry	482	28.0	356.8	18.6	36.7	209.6	776.7	662.8	1 430.8	37.5
	Establishments with 75 percent specialization or more	446	23.2	293.3	15.4	30.4	170.3	633.3	533.0	1 158.9	32.5
35643	Centrifugal blowers and fans:										
	Establishments with this product class primary	44	8.3	113.9	5.6	11.2	70.9	252.0	169.1	419.4	12.5
	Establishments with 75 percent specialization or more in class	26	3.9	57.4	2.8	5.5	36.2	125.6	87.1	211.5	10.0
35644	Propeller and axial fans and power roof ventilators:										
	Establishments with this product class primary	38	5.8	69.0	4.0	7.9	41.9	143.7	120.2	260.8	9.1
	Establishments with 75 percent specialization or more in class	28	4.4	52.9	3.1	5.9	31.7	114.4	90.6	202.7	7.4
35645	Air purification equipment for environmental systems:										
	Establishments with this product class primary	66	5.3	58.9	3.8	7.5	34.9	121.2	98.0	217.9	6.2
	Establishments with 75 percent specialization or more in class	58	4.5	48.7	3.2	6.3	28.4	102.1	79.9	180.6	5.1
35646	Air purification equipment for industrial gases:										
	Establishments with this product class primary	51	6.0	82.8	3.4	6.6	43.5	195.1	220.0	411.9	5.5
	Establishments with 75 percent specialization or more in class	37	3.9	54.4	2.1	4.1	27.3	123.3	143.7	265.6	4.0
3565	**Industrial patterns:**										
	Entire industry	1 002	9.3	152.7	8.0	15.8	122.2	252.5	72.0	320.6	11.1
	Establishments with 75 percent specialization or more	982	8.9	145.1	7.6	15.0	116.1	239.4	66.8	302.5	10.6
3566	**Speed changers, drives, and gears:**										
	Entire industry	327	25.3	365.4	17.6	35.0	226.7	803.1	429.7	1 222.3	48.5
	Establishments with 75 percent specialization or more	299	17.9	259.0	12.5	25.3	159.1	565.1	325.0	880.8	36.4

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3567	**Industrial furnaces and ovens:**										
	Entire industry	327	15.2	209.4	9.3	17.9	107.4	469.3	305.4	746.3	13.4
	Establishments with 75 percent specialization or more	307	12.6	173.0	7.5	14.8	85.7	387.8	258.9	627.8	11.4
35671	Electrical industrial furnaces and ovens:										
	Establishments with this product class primary	39	3.1	46.1	1.8	3.8	23.3	90.0	73.8	158.1	2.8
	Establishments with 75 percent specialization or more in class	27	1.6	24.1	1.0	2.2	13.1	43.8	42.9	84.4	1.9
35672	Fuel-fired industrial furnaces and ovens:										
	Establishments with this product class primary	28	3.4	49.8	1.7	3.4	22.8	116.0	77.5	187.4	2.5
	Establishments with 75 percent specialization or more in class	14	1.1	14.4	0.6	1.3	7.3	41.0	25.6	66.4	1.2
35674	Induction and dielectric heating equipment:										
	Establishments with this product class primary	31	2.3	32.9	1.3	2.6	15.1	73.2	60.2	129.9	3.1
	Establishments with 75 percent specialization or more in class	25	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35675	Industrial electrical heating equipment, n.e.c.:										
	Establishments with this product class primary	39	4.6	56.4	3.3	6.0	33.7	129.4	72.8	189.5	3.3
	Establishments with 75 percent specialization or more in class	31	2.5	26.2	1.8	3.3	14.7	60.2	38.4	96.2	(D)
3568	**Power transmission equipment, n.e.c.:**										
	Entire industry	226	32.5	464.8	23.8	45.8	306.8	1 009.1	650.2	1 626.0	50.3
	Establishments with 75 percent specialization or more	193	21.5	300.0	15.7	30.5	198.9	650.1	406.8	1 046.1	31.5
35681	Plain bearings and bushings:										
	Establishments with this product class primary	58	6.6	88.1	5.0	9.9	60.7	178.7	121.7	291.9	10.0
	Establishments with 75 percent specialization or more in class	50	4.9	65.2	3.8	7.4	44.5	126.7	89.5	210.2	7.3
35683	Power transmission equipment, n.e.c.:										
	Establishments with this product class primary	115	25.5	370.3	18.4	35.1	241.8	816.0	519.3	1 310.2	39.5
	Establishments with 75 percent specialization or more in class	92	16.0	228.3	11.5	22.4	150.2	509.3	308.4	812.5	23.4
3569	**General industrial machinery, n.e.c.:**										
	Entire industry	1 646	57.5	783.2	34.9	69.2	397.7	1 602.2	1 194.8	2 779.5	82.6
	Establishments with 75 percent specialization or more	1 487	44.3	592.8	27.0	53.1	302.9	1 236.4	892.2	2 104.3	64.9
35691	Packing and packaging machinery, except for food:										
	Establishments with this product class primary	151	10.5	148.0	6.7	13.6	83.0	306.9	205.2	512.1	11.7
	Establishments with 75 percent specialization or more in class	117	6.3	87.1	4.0	8.0	49.2	168.3	120.0	284.4	5.1
35692	Industrial filters and strainers:										
	Establishments with this product class primary	122	13.5	179.5	8.0	15.6	82.3	374.2	277.3	647.4	(D)
	Establishments with 75 percent specialization or more in class	99	10.8	143.9	6.2	12.0	64.2	311.3	206.9	515.2	(D)
35699	Other general industrial machinery:										
	Establishments with this product class primary	727	26.5	368.5	15.8	31.4	185.1	740.9	582.2	1 311.8	37.0
	Establishments with 75 percent specialization or more in class	623	19.6	266.3	11.8	23.5	138.1	556.3	427.0	968.1	29.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3561	Pumps and pumping equipment.....1977..	3,773.7	3,098.7	411.3	263.7	88	3,522.8	3,098.7	424.1	88
	1972..	1,917.3	1,408.1	296.1	213.1	83	1,632.9	1,408.1	224.8	86
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3562	Ball and roller bearings.....1977..	2,567.3	2,393.8	94.6	78.9	96	2,444.5	2,393.8	50.7	98
	1972..	1,530.5	1,398.8	86.8	44.9	94	1,418.7	1,398.8	19.9	99
	1967..	1,328.5	1,259.9	35.5	33.1	97	1,292.2	1,259.9	32.3	97
3563	Air and gas compressors.....1977..	2,075.6	1,704.0	238.9	132.7	88	1,923.4	1,704.0	219.4	89
	1972..	858.4	649.7	134.7	74.0	83	722.7	649.7	73.0	90
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3564	Blowers and fans.....1977..	1,430.8	1,230.8	146.6	53.4	89	1,422.3	1,230.8	191.5	87
	1972..	805.3	571.2	151.8	82.3	79	682.0	571.2	110.8	84
	1967..	525.2	410.5	71.5	43.2	85	499.1	410.5	88.6	82
3565	Industrial patterns.....1977..	320.6	308.9	9.5	2.2	97	411.9	308.9	103.0	75
	1972..	198.0	183.6	10.3	4.1	95	234.4	183.6	50.8	78
	1967..	201.8	186.0	7.9	7.9	96	233.7	186.0	47.7	80
3566	Speed changers, drives, and gears.....1977..	1,222.3	1,011.2	146.8	64.3	87	1,199.7	1,011.2	188.5	84
	1972..	632.7	525.6	72.3	34.8	88	593.0	525.6	67.4	89
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3567	Industrial furnaces and ovens.....1977..	746.3	639.7	60.7	45.9	91	707.1	639.7	67.4	90
	1972..	443.2	311.5	85.4	46.3	78	341.1	311.5	29.6	91
	1967..	495.7	365.6	54.0	76.1	87	415.9	365.6	50.3	88
3568	Power transmission equipment, n.e.c.....1977..	1,626.0	1,265.6	270.6	89.8	82	1,710.9	1,265.6	445.3	74
	1972..	876.4	719.0	106.8	50.6	87	975.0	719.0	256.0	74
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3569	General industrial machinery, n.e.c.....1977..	2,779.5	2,300.1	315.9	163.5	88	2,689.4	2,300.1	389.3	86
	1972..	1,171.9	922.7	163.0	86.2	85	1,132.8	922.7	210.1	81
	1967..	901.2	712.5	121.3	67.4	85	899.8	712.5	187.3	79

n.e.c. Not elsewhere classified.

[1] Prior to 1972, industry 3561 included industry 3563 although the industry code was the same. In 1972, industries 3566 and 3568 were established as seperate industries. Data for 1967 are not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Pumps and pumping equipment (SIC 3561)	Ball and roller bearings (SIC 3562)	Air and gas compressors (SIC 3563)	Blowers and fans (SIC 3564)	Industrial patterns (SIC 3565)	Speed changers, drives, and gears (SIC 3566)	Industrial furnaces and ovens (SIC 3567)	Power transmission equipment, n.e.c. (SIC 3568)	General industrial machinery, n.e.c. (SIC 3569)	Other industries
	Total	(X)	3,773.7	2,567.3	2,075.6	1,430.8	320.6	1,222.3	746.3	1,626.0	2,779.5	(X)
	Primary products	(X)	3,098.7	2,393.8	1,704.0	1,230.8	308.9	1,011.2	639.7	1,265.6	2,300.1	(X)
	Secondary products	(X)	411.3	94.6	238.9	146.6	9.5	146.8	60.7	270.6	315.9	(X)
	Miscellaneous receipts	(X)	263.7	78.9	132.7	53.4	2.2	64.3	45.9	89.8	163.5	(X)
3561-	Pumps and pumping equipment	3,522.8	3,098.7	-	45.2	-	-	(D)	-	(D)	(D)	368.7
35611	Industrial pumps, except fluid power pumps	1,386.7	1,258.8	-	(D)	-	-	-	-	-	(D)	112.4
35612	Hydraulic fluid power pumps and motors	488.9	420.5	-	-	-	-	-	-	-	-	68.4
35613	Domestic water systems and pumps	223.8	(D)	-	-	-	-	-	-	-	(D)	21.7
35615	Other pumps and pumping equipment	395.7	(D)	-	(D)	-	-	(D)	-	-	(D)	73.9
35616	Parts and attachments for pumps	861.6	762.5	-	(D)	-	-	-	-	-	(D)	85.8
35610	Pumps and compressors, n.s.k	166.1	157.4	-	(D)	-	-	-	-	(D)	.7	6.5
3562-	Ball and roller bearings	2,444.5	-	2,393.8	-	-	-	(D)	-	(D)	-	24.5
35621	Ball bearings, complete	749.9	-	744.7	-	-	-	(D)	-	(D)	-	(D)
35622	Taper roller bearings (including cups and cones	748.6	-	747.5	-	-	-	(D)	-	-	-	(D)
35623	Roller bearings, except taper, complete	472.9	-	464.4	-	-	-	(D)	-	-	-	(D)
35624	Mounted bearings, except plain	213.1	-	187.2	-	-	-	(D)	-	(D)	-	(D)
35629	Ball and roller bearing parts and components	243.1	-	235.6	-	-	-	-	-	-	-	7.5
35620	Ball and roller bearings, n.s.k	16.8	-	14.4	-	-	-	-	-	-	-	2.4
3563-	Air and gas compressors	1,923.4	(D)	-	1,704.0	(D)	-	-	-	-	(D)	177.3
35631	Air and gas compressors and vacuum pumps	1,290.3	(D)	-	1,127.7	-	-	-	-	-	(D)	150.0
35632	Parts for air and gas compressors and vacuum pumps	748.6	-	747.5	-	-	-	(D)	-	-	-	(D)
35635	Industrial spraying equipment	221.6	(D)	-	192.1	-	-	-	-	-	(D)	(D)
35630	Air and gas compressors, n.s.k	27.4	-	-	27.4	-	-	-	-	-	-	-
3564-	Blowers and fans	1,422.3	(D)	-	(D)	1,230.8	-	-	(D)	-	1.8	185.7
35643	Centrifugal blowers and fans	354.1	-	-	-	314.9	-	-	-	-	(D)	(D)
35644	Propeller and axial fans and power roof ventilators	303.3	(D)	-	(D)	272.2	-	-	-	-	-	(D)
35645	Air purification equipment for environmental systems	260.7	-	-	-	194.9	-	-	-	-	(D)	(D)
35646	Air purification equipment for industrial gases	381.7	-	-	(D)	333.1	-	-	(D)	-	(D)	45.0
35640	Blowers and fans, n.s.k	122.5	-	-	-	115.8	-	-	-	-	-	6.7
35650	Industrial patterns, except shoe patterns	411.9	-	-	-	-	308.9	-	-	(D)	(D)	102.7
35660	Speed changers, drives, and gears	1,199.7	(D)	(D)	-	-	-	1,011.2	-	(D)	-	109.7
3567-	Industrial furnaces and ovens	707.1	(D)	-	-	-	-	-	639.7	-	(D)	60.6
35671	Electrical industrial furnaces and ovens	140.3	(D)	-	-	-	-	-	129.5	-	-	(D)
35672	Fuel-fired industrial furnaces and ovens	144.4	-	-	-	-	-	-	133.1	-	(D)	(D)
35674	Induction and dielectric heating equipment	133.4	-	-	-	-	-	-	106.1	-	-	27.3
35675	Industrial electrical heating equipment, n.e.c	204.1	-	-	-	-	-	-	192.3	-	(D)	(D)
35670	Industrial furnaces and ovens, n.s.k	84.9	-	-	-	-	-	-	78.6	-	.3	6.0
3568-	Power transmission equipment, n.e.c	1,710.9	(D)	(D)	(D)	(D)	-	72.7	-	1,265.6	(D)	320.9
35681	Plain bearings and bushings	275.1	(D)	(D)	(D)	-	-	(D)	-	230.1	-	29.8
35683	Power transmission equipment, n.e.c	1,419.1	-	(D)	-	(D)	-	(D)	-	1,019.8	(D)	290.5
35680	Power transmission equipment, n.s.k	16.6	-	-	-	-	-	.4	-	15.7	-	.6
3569-	General industrial machinery, n.e.c	2,689.4	(D)	-	(D)	3.3	(D)	(D)	3.4	(D)	2,300.1	367.1
35691	Packing and packaging machinery, except for food	440.5	-	-	-	-	-	-	-	-	361.7	78.9
35692	Industrial filters and strainers	630.0	(D)	-	-	(D)	-	(D)	-	-	558.4	64.0
35699	Other general industrial machinery	1,311.6	-	-	(D)	(D)	(D)	(D)	3.4	(D)	1,096.5	200.5
35690	General industrial machinery, n.e.c., n.s.k.	307.3	-	-	-	-	-	-	-	-	283.5	23.7
	Other shipments by 4-digit product group:											
2293-	Paddings and upholstery filling	(X)	-	-	-	-	-	-	-	-	(D)	(X)
2392-	Housefurnishings, n.e.c.	(X)	-	-	-	-	-	-	-	-	(D)	(X)
2514-	Metal household furniture	(X)	-	-	6.0	-	-	-	-	-	-	(X)
2542-	Metal partitions and fixtures	(X)	-	-	-	-	-	-	-	-	(D)	(X)
2891-	Adhesives and sealants	(X)	-	-	-	-	-	-	-	(D)	(D)	(X)
2893-	Printing ink	(X)	-	-	-	-	-	-	-	-	(D)	(X)
3041-	Rubber and plastics hose and belting	(X)	(D)	-	2.8	-	-	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	(D)	(D)	-	-	-	(D)	28.6	(X)
3229-	Pressed and blown glass, n.e.c	(X)	-	-	-	(D)	-	-	-	-	-	(X)
3317-	Steel pipe and tubes	(X)	(D)	-	-	-	-	-	-	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Pumps and pumping equipment (SIC 3561)	Ball and roller bearings (SIC 3562)	Air and gas compressors (SIC 3563)	Blowers and fans (SIC 3564)	Industrial patterns (SIC 3565)	Speed changers, drives, and gears (SIC 3566)	Industrial furnaces and ovens (SIC 3567)	Power transmission equipment, n.e.c. (SIC 3568)	General industrial machinery, n.e.c. (SIC 3569)	Other industries
	Other shipments by 4-digit product group--Con.											
3321-	Gray iron castings	(X)	15.4	-	(D)	-	(D)	.1	-	-	-	(X)
3322-	Malleable iron castings	(X)	-	-	-	-	-	-	-	(D)	-	(X)
3325-	Steel castings, n.e.c	(X)	-	-	-	-	-	(D)	-	(D)	(D)	(X)
3351-	Copper rolling and drawing	(X)	-	-	-	-	-	-	-	(D)	-	(X)
3361-	Aluminum castings	(X)	-	-	-	-	(D)	-	-	(D)	-	(X)
3423-	Hand and edge tools, n.e.c	(X)	-	-	(D)	-	-	-	(D)	-	(D)	(X)
3429-	Hardware, n.e.c	(X)	-	-	-	-	-	(D)	-	(D)	(D)	(X)
3433-	Heating equipment, except electric	(X)	-	-	-	(D)	-	-	5.0	-	(D)	(X)
3442-	Metal doors, sash, and trim	(X)	-	-	-	(D)	-	-	-	-	-	(X)
3443-	Fabricated plate work (boiler shops)	(X)	26.9	-	(D)	(D)	-	.6	(D)	-	(D)	(X)
3444-	Sheet metal work	(X)	-	-	-	19.0	-	-	(D)	-	-	(X)
3448-	Prefabricated metal buildings	(X)	-	-	-	(D)	-	-	(D)	-	-	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	(D)	-	-	-	(D)	-	(D)	.2	(X)
3465-	Automotive stampings	(X)	-	(D)	-	(D)	-	-	-	-	-	(X)
3466-	Crowns and closures	(X)	-	-	-	-	-	-	-	-	(D)	(X)
3489-	Ordnance and accessories, n.e.c	(X)	-	-	-	-	-	-	-	-	(D)	(X)
3494-	Valves and pipe fittings	(X)	139.2	-	(D)	(D)	-	(D)	(D)	-	(D)	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	-	-	-	-	-	-	-	(D)	(X)
3497-	Metal foil and leaf	(X)	-	-	-	-	-	-	-	-	(D)	(X)
3498-	Fabricated pipe and fittings	(X)	(D)	-	(D)	1.0	-	1.3	-	-	(D)	(X)
3499-	Fabricated metal products, n.e.c	(X)	(D)	(D)	.2	(D)	-	-	(D)	(D)	23.0	(X)
3511-	Turbines and turbine generator sets	(X)	(D)	-	(D)	-	-	-	(D)	-	-	(X)
3519-	Internal combustion engines, n.e.c	(X)	(D)	-	(D)	-	-	-	-	-	(D)	(X)
3523-	Farm machinery and equipment	(X)	(D)	(D)	(D)	(D)	-	(D)	-	(D)	-	(X)
3531-	Construction machinery	(X)	(D)	-	(D)	-	-	(D)	-	(D)	(D)	(X)
3532-	Mining machinery	(X)	-	-	(D)	(D)	-	(D)	-	-	10.4	(X)
3533-	Oil field machinery	(X)	(D)	-	(D)	-	-	-	-	-	-	(X)
3535-	Conveyors and conveying equipment	(X)	-	-	-	(D)	-	(D)	(D)	(D)	(D)	(X)
3536-	Hoists, cranes, and monorails	(X)	(D)	-	-	-	-	-	-	-	(D)	(X)
3537-	Industrial trucks and tractors	(X)	(D)	-	-	-	-	(D)	-	-	(Z)	(X)
3542-	Machine tools, metal forming types	(X)	(D)	-	-	(D)	-	(D)	-	-	(D)	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	-	-	-	2.0	-	-	(D)	(D)	(X)
3545-	Machine tool accessories	(X)	-	2.1	(D)	-	-	-	-	(D)	(D)	(X)
3547-	Rolling mill machinery	(X)	-	-	-	-	-	(D)	-	-	-	(X)
3549-	Metalworking machinery, n.e.c	(X)	-	-	(D)	-	-	-	(D)	-	(D)	(X)
3552-	Textile machinery	(X)	-	-	-	(D)	(D)	(D)	-	(D)	(D)	(X)
3555-	Printing trades machinery	(X)	-	-	(D)	-	-	-	-	-	(D)	(X)
3559-	Special industry machinery, n.e.c	(X)	(D)	-	(D)	(D)	(D)	(D)	3.4	-	(D)	(X)
3579-3572	Office machines, n.e.c. and typewriters	(X)	-	-	-	-	-	-	-	1.9	(D)	(X)
3585-	Refrigeration and heating equipment	(X)	(D)	-	(D)	(D)	-	-	(D)	(D)	(D)	(X)
3586-	Measuring and dispensing pumps	(X)	(D)	-	(D)	-	-	-	-	-	(D)	(X)
3589-	Service industry machinery, n.e.c	(X)	(D)	-	.7	20.3	-	-	(D)	-	(D)	(X)
3592-	Carburetors, pistons, rings, and valves	(X)	(D)	-	(D)	-	(D)	-	-	(D)	-	(X)
3599-	Machinery, except electrical, n.e.c	(X)	30.5	(D)	(D)	(D)	(D)	2.8	.1	(D)	15.9	(X)
3621-	Motors and generators	(X)	(D)	-	(D)	(D)	-	10.4	.4	-	-	(X)
3622-	Industrial controls	(X)	(D)	-	2.7	1.0	-	1.7	-	.7	-	(X)
3624-	Carbon and graphite products	(X)	-	-	-	-	-	-	-	3.3	-	(X)
3631-	Household cooking equipment	(X)	-	-	-	-	-	-	(D)	-	-	(X)
3634-	Electric housewares and fans	(X)	-	-	(D)	3.2	-	-	(D)	-	(D)	(X)
3639-	Household appliances, n.e.c	(X)	-	-	-	-	-	-	(D)	-	-	(X)
3648-	Lighting equipment, n.e.c	(X)	(D)	-	-	-	-	-	-	(D)	(D)	(X)
3679-	Electronic components, n.e.c	(X)	-	-	-	-	-	.5	.1	.6	3.0	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	-	-	-	(D)	-	-	(D)	-	.6	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	(D)	(D)	(D)	-	(D)	(D)	85.2	(D)	(X)
3715-	Truck trailers	(X)	-	-	-	-	-	-	-	-	(D)	(X)
3731-	Ship building and repairing	(X)	(D)	-	-	-	-	-	-	-	-	(X)
3743-	Railroad equipment	(X)	-	-	(D)	(D)	.4	-	-	-	(D)	(X)
3751-	Motorcycles, bicycles, and parts	(X)	-	(D)	-	-	-	(D)	-	-	(D)	(X)
3811-	Engineering and scientific instruments	(X)	(D)	(D)	-	-	-	-	(D)	-	(D)	(X)
3822-	Environmental controls	(X)	(D)	-	-	2.1	-	-	-	-	1.8	(X)
3823-	Process control instruments	(X)	(D)	-	-	-	-	-	2.1	4.3	.1	(X)
3824-	Fluid meters and counting devices	(X)	(D)	-	-	-	-	-	-	-	(D)	(X)
3832-	Optical instruments and lenses	(X)	(D)	-	-	-	-	-	-	-	(D)	(X)
3841-	Surgical and medical instruments	(X)	(D)	-	-	-	-	-	-	-	-	(X)
3842-	Surgical appliances and supplies	(X)	-	-	-	-	-	-	-	-	(D)	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product codes	Product group, product class, and miscellaneous receipts	All industries	Pumps and pumping equipment (SIC 3561)	Ball and roller bearings (SIC 3562)	Air and gas compressors (SIC 3563)	Blowers and fans (SIC 3564)	Industrial patterns (SIC 3565)	Speed changers, drives, and gears (SIC 3566)	Industrial furnaces and ovens (SIC 3567)	Power transmission equipment, n.e.c. (SIC 3568)	General industrial machinery, n.e.c. (SIC 3569)	Other industries
	Miscellaneous receipts:											
93000 00	Contract work	(X)	8.4	3.5	(D)	1.1	.9	18.2	6.0	2.0	25.2	(X)
99980 13	Sales of scrap and refuse	(X)	(X)	15.1	(X)	1.1	(Z)	(D)	.4	5.0	.6	(X)
99980 31	Receipts for installation or construction	(X)	.9	(X)	(D)	(X)	-	(X)	9.4	(X)	6.6	(X)
99980 41	Receipts for research and development work	(X)	1.8	(D)	-	(X)	-	(D)	(X)	1.2	5.2	(X)
99980 61	Receipts for repair work	(X)	44.2	(X)	27.1	(X)	(D)	(X)	9.0	(X)	5.9	(X)
99980 98	Other miscellaneous receipts	(X)	10.6	(D)	35.5	11.7	(D)	4.9	4.7	1.8	13.6	(X)
99989 00	Resales	(X)	197.8	59.8	58.3	39.5	.8	39.3	16.3	79.8	106.4	(X)

1977 product code		Industry and miscellaneous receipts	Other industries
		Other industries with over $5 million shipments of primary products:	
3561-	3079	Miscellaneous plastics products	(D)
	3433	Heating equipment, except electric	(D)
	3443	Fabricated plate work (boiler shops)	(D)
	3494	Valves and pipe fittings	(D)
	3511	Turbines and turbine generator sets	(D)
	3519	Internal combustion engines, n.e.c	(D)
	3523	Farm machinery and equipment	9.1
	3531	Construction machinery	(D)
	3532	Mining machinery	(D)
	3533	Oil field machinery	(D)
	3541	Machine tools, metal cutting types	(D)
	3546	Power driven hand tools	(D)
	3585	Refrigeration and heating equipment	(D)
	3586	Measuring and dispensing pumps	(D)
	3589	Service industry machinery, n.e.c	5.5
	3599	Machinery, except electrical, n.e.c	5.2
	3694	Engine electrical equipment	(D)
	3728	Aircraft equipment, n.e.c	(D)
	3743	Railroad equipment	(D)
3562-	3714	Motor vehicle parts and accessories	(D)
3563-	3511	Turbines and turbine generator sets	(D)
	3519	Internal combustion engines, n.e.c	(D)
	3533	Oil field machinery	(D)
	3535	Conveyors and conveying equipment	(D)
	3559	Special industry machinery, n.e.c	(D)
	3621	Motors and generators	(D)
	3671	Electron tubes, receiving type	(D)
	3714	Motor vehicle parts and accessories	(D)
	3811	Engineering and scientific instruments	(D)
3564-	3296	Mineral wool	15.8
	3433	Heating equipment, except electric	(D)
	3443	Fabricated plate work (boiler shops)	(D)
	3444	Sheet metal work	(D)
	3446	Architectural metal work	(D)
	3448	Prefabricated metal buildings	(D)
	3535	Conveyors and conveying equipment	9.1
	3559	Special industry machinery, n.e.c	(D)
	3585	Refrigeration and heating equipment	24.6
	3589	Service industry machinery, n.e.c	(D)

1977 product code		Industry and miscellaneous receipts	Other industries
		Other industries with over $5 million shipments of primary products--Con.	
3564-	3621	Motors and generators	(D)
	3634	Electric housewares and fans	(D)
	3842	Surgical appliances and supplies	(D)
3565-	3321	Gray iron foundries	(D)
	3325	Steel foundries, n.e.c	(D)
	3361	Aluminum foundries	17.6
3566-	3511	Turbines and turbine generator sets	(D)
	3533	Oil field machinery	(D)
	3592	Carburetors, pistons, rings, valves	(D)
	3621	Motors and generators	36.4
3567-	3443	Fabricated plate work (boiler shops)	(D)
	3559	Special industry machinery, n.e.c	17.3
3568-	3362	Brass, bronze, and copper foundries	(D)
	3535	Conveyors and conveying equipment	(D)
	3592	Carburetors, pistons, rings, valves	(D)
	3621	Motors and generators	(D)
	3714	Motor vehicle parts and accessories	(D)
	3724	Aircraft engines and engine parts	(D)
	3728	Aircraft equipment, n.e.c	(D)
3569-	2643	Bags, except textile bags	(D)
	2649	Converted paper products, n.e.c	(D)
	3322	Malleable iron foundries	(D)
	3325	Steel foundries, n.e.c	(D)
	3443	Fabricated plate work (boiler shops)	(D)
	3466	Crowns and closures	(D)
	3494	Valves and pipe fittings	(D)
	3499	Fabricated metal products, n.e.c	7.2
	3523	Farm machinery and equipment	(D)
	3535	Conveyors and conveying equipment	7.5
	3536	Hoists, cranes, and monorails	(D)
	3551	Food products machinery	34.7
	3559	Special industry machinery, n.e.c	37.2
	3586	Measuring and dispensing pumps	(D)
	3589	Service industry machinery, n.e.c	9.7
	3599	Machinery, except electrical, n.e.c	22.4
	3811	Engineering and scientific instruments	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	PUMPS AND PUMPING EQUIPMENT						
3561- --	Total	.....	(NA)	(X)	3,522.8	(X)	1,632.9
35611 --	Industrial pumps, except hydraulic fluid power pumps:						
	As reported in the census of manufactures	.....	149	(X)	1,386.7	(X)	611.9
	As reported in Current Industrial Reports MA-35P, Pumps and Compressors	.....	(NA)	(X)	1,374.7	(X)	615.5
	Value of drivers (reported separately)[2]	.....	(NA)	(X)	244.5	(X)	113.2
	Reciprocating pumps:						
35611 01	Direct-acting, steam-driven	Thousands	(NA)	.8	3.3	1.1	2.3
35611 03	Power-operated, other than steam		(NA)	323.2	94.0	188.7	52.7
	Turbine pumps, vertical, including deep well:						
35611 05	Submersible, over 5 hp		(NA)	20.4	57.0	11.9	13.1
	Other than submersible:						
35611 09	16 inch diameter bowl size and under		(NA)	25.9	97.5	25.4	43.8
35611 10	Over 16 inch diameter bowl size		(NA)	2.0	14.1	3.1	8.6
	Centrifugal pumps:						
	Single stage, single suction, close coupled:						
35611 11	1/2 inch discharge outlet and under		(NA)	11.9	1.0	6.7	.5
35611 12	3/4 inch and 1 inch discharge outlet		(NA)	119.1	16.2	127.7	8.2
35611 14	1 1/4 inch and 1 1/2 inch discharge outlet		(NA)	408.1	36.3	251.5	15.5
35611 15	2 inch and 2 1/2 inch discharge outlet		(NA)	104.5	27.6	81.4	10.7
35611 16	3 inch and 4 inch discharge outlet		(NA)	47.4	22.9	47.2	11.1
35611 19	Over 4 inch discharge outlet		(NA)	6.5	21.5	7.1	7.4
	Single state, single suction, frame mounted:						
35611 21	1/2 inch discharge outlet and under		(NA)	400.0	28.0	174.2	11.4
35611 22	3/4 inch and 1 inch discharge outlet		(NA)				
35611 23	1 1/4 inch and 1 1/2 inch discharge outlet		(NA)	41.6	26.6	37.6	10.6
35611 24	2 inch and 2 1/2 inch discharge outlet		(NA)	45.8	33.4	38.3	13.8
35611 25	3 inch discharge outlet		(NA)	28.3	30.4	22.4	12.2
35611 26	4 inch to 6 inch discharge outlet		(NA)	27.5	51.5	30.4	30.3
35611 29	Over 6 inch discharge outlet		(NA)	5.7	39.2	4.2	11.3
	Single stage, double suction:						
35611 42	Under 4 inch discharge outlet		(NA)	9.8	8.3	9.4	4.1
35611 44	4 inch and 5 inch discharge outlet		(NA)	5.8	12.3	6.1	6.1
35611 46	6 inch and 7 inch discharge outlet		(NA)	3.6	12.5	3.5	5.5
35611 48	8 inch and 12 inch discharge outlet		(NA)	3.8	21.9	3.0	9.3
35611 49	Over 12 inch discharge outlet		(NA)	.9	33.3	.5	8.1
	Multistage (single or double suction):						
35611 52	1 1/2 inch discharge outlet and under		(NA)	37.8	9.1	8.8	3.9
35611 54	2 inch and 3 inch discharge outlet		(NA)	2.1	34.8	5.0	13.9
35611 56	4 inch and 5 inch discharge outlet		(NA)	1.0	27.5	1.2	9.1
35611 58	6 inch and 7 inch discharge outlet		(NA)	.3	16.3	.3	5.7
35611 59	8 inch and over discharge outlet		(NA)	.4	24.8	.4	14.6
	Propeller and mixed flow:						
35611 62	20 inch and under		(NA)	3.1	11.5	1.8	4.0
35611 64	Over 20 inch		(NA)	1.7	38.8	.6	11.3
	All other centrifugal pumps, including can, etc.:						
35611 65	1 1/2 inch discharge outlet and under		(NA)	889.2	27.1	600.0	12.0
35611 66	2 inch to 6 inch discharge outlet		(NA)	76.4	36.9	27.8	12.8
35611 69	Over 6 inch discharge outlet		(NA)	6.2	77.1	.5	44.6
	Rotary pumps:						
	100 p.s.i. and under, designed pressure:						
35611 70	10 g.p.m. and under, designed capacity		(NA)	622.9	20.1	406.9	10.8
35611 71	11-99 g.p.m., designed capacity		(NA)	160.6	17.6	110.3	12.4
35611 72	100-299 g.p.m., designed capacity		(NA)	63.8	7.0	72.2	4.4
35611 73	300 g.p.m. and over, designed capacity		(NA)	2.7	3.8	2.5	1.6
	101-250 p.s.i., designed pressure:						
35611 74	10 g.p.m. and under, designed capacity		(NA)	157.7	9.6	153.5	6.1
35611 75	11-99 g.p.m., designed capacity		(NA)	47.0	15.2	52.7	10.7
35611 76	100 g.p.m. and over, designed capacity		(NA)	16.6	13.7	14.2	6.7
	251-500 p.s.i., designed pressure:						
35611 77	10 g.p.m. and under, designed capacity		(NA)	70.7	3.1	63.5	1.9
35611 78	11 g.p.m. and over, designed capacity		(NA)	15.2	7.9	15.9	6.0
35611 79	Over 500 p.s.i., designed pressure		(NA)	6.0	8.4	4.9	4.6
35611 98	Other industrial pumps	Thousands	(NA)	84.3	31.1	46.9	8.5
35612 --	Hydraulic fluid power pumps:						
	As reported in the census of manufactures	.....	54	(X)	488.9	(X)	261.6
	As reported in Current Industrial Reports MA-35P, Pumps and Compressors	.....	(NA)	(X)	485.5	(X)	259.2
	Value of drivers (reported separately)[2]	.....	(NA)	(X)	7.4	(X)	6.1
35612 81	Gear type	Thousands	(NA)	(NA)	130.0	2,103.7	122.2
35612 83	Vane type[3]		(NA)	372.4	55.5	490.5	48.9
	Piston type:						
35612 85	Axial		(NA)	439.3	122.0	318.8	75.0
35612 87	Rotary or radial		(NA)	5.0	8.2	6.6	6.9
35612 11	Other types		(NA)	14.7	2.0	(NA)	(NA)
35612 99	Hydraulic fluid power motors	Thousands	(NA)	1,213.7	160.4	(NA)	(NA)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
3561- --	PUMPS AND PUMPING EQUIPMENT--Con.						
35613 --	Domestic water systems and pumps, including pump jacks and cylinders:						
	As reported in the census of manufactures	.....	39	(X)	223.8	(X)	151.1
	As reported in Current Industrial Reports MA-35P, Pumps and Compressors	.....	(NA)	(X)	207.5	(X)	140.9
	Domestic water systems:						
35613 13	Jet pump and convertible jet pump systems	Thousands	(NA)	620.7	75.3	822.7	[5]60.5
35613 20	Nonjet pump systems, except submersible		(NA)	16.2	[5]2.2	78.9	[5]6.7
35613 25	Submersible pump systems, 5 hp and under		(NA)	728.3	[5]126.8	573.9	[5]72.4
35613 70	Domestic hand and windmill pumps, pump jacks, and cyclinders (sold separately)	Thousands	(NA)	44.6	[5]3.2	80.0	[5]1.3
35615 --	Pumps and pumping equipment, n.e.c.	.....	(NA)	(X)	395.7	(X)	186.4
35615 10, 19	As reported in the census of manufactures	.....	95	(X)	391.2	(X)	178.8
	As reported in Current Industrial Reports MA-35P, Pumps and Compressors	.....	(NA)	(X)	371.4	(X)	163.3
	Value of drivers (reported separately)[1]	.....	(NA)	(X)	35.9	(X)	22.0
	Oil well and oilfield pumps, except boiler feed:						
35615 11	Subsurface pumps for oil well pumping	Thousands	(NA)	133.9	99.0	(S)	22.2
35615 13	Slush pumps		(NA)	1.4	52.8	.2	14.3
35615 15	Other oil well and oilfield pumps		(NA)	9.4	40.8	(S)	14.0
	Domestic sump pumps:						
35615 73	Pedestal		(NA)	394.8	15.5	288.4	8.6
35615 76	Submersible		(NA)	764.9	34.5	271.3	13.1
35615 96	Other pumps (except automotive) such as oil burner and appliance pumps, fire engine pumps, laboratory pumps, sump pumps, etc	Thousands	(NA)	3,020.4	92.9	2,907.3	69.0
35615 00	Pumps and pumping equipment, n.e.c., n.s.k	.....	(NA)	(X)	4.5	(X)	7.6
35616 --	Parts and attachments for pumps and pumping equipment, except for air and gas compressors:						
35616 13	Parts and attachments for pumps and pumping equipment, except for air and gas compressors	.....	132	(X)	861.6	(X)	346.5
35610 00	Pumps and pumping equipment, n.s.k., typically for companies with 5 employees or more (see note)	.....	(NA)	(X)	87.0	(X)	54.1
35610 02	Pumps and pumping equipment, n.s.k., typically for companies with less than 5 employees (see note)	.....	(NA)	(X)	79.1	(X)	21.3
	BALL AND ROLLER BEARINGS						
3562- --	Total	.....	NA)	(X)	2,444.5	(X)	1,418.7
35621 --	Ball bearings, complete	.....	NA)	(X)	749.9	(X)	474.2
	Annular, including self-aligning:						
	Ground or precision:						
	Single row conrad:						
	Miniature (below 9 mm. O.D.):						
35621 01	Regular (ABEC 1 and 3)	Millions	4	(S)	4.7	32.3	35.2
35621 02	Precision (ABEC 5 and up)		4	2.8	7.2		
	Other regular:						
35621 03	9 mm. O.D. to 30 mm. O.D		13	39.6	56.3	47.5	32.7
35621 04	Over 30 mm. O.D. to 52 mm. O.D		19	96.3	138.6	68.8	62.7
35621 05	Over 52 mm. O.D. to 100 mm. O.D		16	31.0	126.9	38.1	78.7
35621 07	Over 100 mm. O.D		15	3.7	86.5	3.6	34.1
	Other precision (ABEC 5 and up):						
35621 09	9 mm. O.D. thru 30 mm. O.D		6	3.7	12.0		
35621 11	Over 30 mm. O.D. thru 52 mm. O.D		5	1.6	7.9	(S)	29.7
35621 12	Over 52 mm. O.D. thru 100 mm. O.D		6	1.1	10.6		
35621 13	Over 100 mm. O.D		6	.7	17.4		
35621 14	Single row maximum capacity type		6	3.5	25.1	6.5	22.5
	Integral shaft ball bearings:						
35621 15	Not over 30 mm. O.D		4	10.5	34.2	(6)	(6)
35621 17	Over 30 mm. O.D		2			(6)	(6)
35621 16	Double row		6	12.5	60.8	6.1	43.7
35621 18	Angular contact		8	4.6	38.4	3.8	18.0
35621 21	All other ground or precision bearings (ABEC 1 and up)		6	4.2	28.5	[6](S)	[6]36.9
35621 25	Unground, including self-aligning (less than ABEC 1)		7	91.5	26.6	(S)	13.3
	Thrust:						
35621 33	Ground		13	6.0	27.3	(S)	13.2
35621 35	Unground		5	(S)	5.9	3.9	5.8
35621 51	Other ball bearings	Millions	11	21.0	31.9	23.5	43.0
35621 00	Ball bearings, complete, n.s.k	.....	(NA)	(X)	3.1	X)	4.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
	BALL AND ROLLER BEARINGS--Con.						
35622 --	Taper (including thrust) roller bearings, complete:						
35622 31	Taper (including thrust) roller bearings, complete, including finished cups and cones shipped separately	Millions	14	*128.5	748.6	(S)	[7]420.0
35623 --	Roller bearings, except taper, complete		(NA)	(X)	472.9	(X)	[7]280.9
	Cylindrical:						
35623 11	Regular (ABEC 1 and 3)	Millions	20	19.9	162.6	(S)	[7]104.8
35623 12	Precision (ABEC 5 and up)		7	.2	24.1	1.8	[7]13.6
	Spherical, including hourglass and barrel:						
35623 24	Single row		8	2.6	24.0	1.7	[7]9.3
35623 25	Double row		6	.8	77.9	.7	[7]50.5
35623 41	Needle		7	(S)	132.4	46.1	[7]53.1
35623 98	Other roller bearings	Millions	14	8.6	48.8	(S)	[7]49.6
35623 00	Roller bearings, except taper, complete, n.s.k.		(NA)	(X)	3.1	(X)	-
35624 --	Mounted bearings, except plain		(NA)	(X)	213.1	(X)	100.9
35624 17	Ball bearings, unit and/or split mounted	Million	14	*17.2	120.1	10.6	57.9
	Roller:						
35624 53	Unit mounted		10	(S)	75.3	3.0	42.8
35624 55	Split mounted	Million	4	.1	15.8		
35624 00	Mounted bearings, except plain, n.s.k.		(NA)	(X)	1.9	(X)	.2
35629 --	Ball and roller bearing parts and components, including balls and rollers sold separately		(NA)	(X)	243.1	(X)	138.2
35629 11	Balls	Millions	11	5,146.2	43.5	(S)	32.0
35629 31	Rollers	Millions	10	**9,549.3	66.7	(S)	26.4
35629 21	Other antifriction ball bearing components and parts, including unassembled ball bearings, cages, housing closures, collars, races, etc.		14	(X)	27.0	(X)	18.8
35629 41	Other antifriction roller bearing components and parts, including unassembled roller bearings, cages, housing closures, collars, races, etc		19	(X)	105.4	(S)	59.8
35629 00	Ball and roller bearing parts and components, including balls and rollers sold separately, n.s.k.		(NA)	(X)	.5	(X)	1.2
35620 00	Ball and roller bearings, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	10.7	(X)	3.4
35620 02	Ball and roller bearings, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	6.1	(X)	1.1
	AIR AND GAS COMPRESSORS						
3563- --	Total		(NA)	(X)	1,923.4	(X)	722.7
35631 --	Air and gas compressors and vacuum pumps		(NA)	(X)	1,290.3	(X)	480.8
35631 10, 20	As reported in census of manufactures		89	(X)	1,277.1	(X)	480.8
	As reported in Current Industrial Reports MA-35P, Pumps and Compressors		(NA)	(X)	1,254.4	(X)	436.9
	Value of drivers (reported separately)[8]		(NA)	(X)	199.0	(X)	42.0
	Air compressors:						
	Stationary:						
	Reciprocating, single acting:						
35631 01	1.5 hp and under	Thousands	(NA)	139.4	21.1		
35631 02	Over 1.5 hp to 5 hp		(NA)	97.8	37.7		
35631 03	6 hp to 25 hp		(NA)	29.6	41.4		
35631 04	26 hp and over		(NA)	4.4	21.9		
	Reciprocating, double acting:						
35631 05	150 hp and under		(NA)	6.6	31.6		
35631 06	151 hp and over		(NA)	.5	17.2		
	Rotary positive:					323.1	148.7
35631 07	Discharge pressures 50 PSIG and under, all hp sizes		(NA)	81.9	23.4		
	Discharge pressures of 51 PSIG and over:						
35631 08	150 hp and under		(NA)	10.3	66.8		
35631 09	151 hp and over		(NA)	.7	15.5		
	Centrifugal and axial:						
35631 14	50 PSIG and under		(NA)	.1	16.6		
35631 18	51 PSIG and over		(NA)	.5	63.9		
	Portable:						
35631 31	Under 75 c.f.m.		(NA)	849.9	78.9	268.6	12.4
35631 34	75 to 124 c.f.m.		(NA)	4.1	13.4		
35631 36	125 to 249 c.f.m.		(NA)	8.7	43.7		
35631 37	250 to 599 c.f.m.		(NA)	1.5	16.5	12.4	50.9
35631 38	600 to 899 c.f.m.		(NA)	2.0	43.3		
35631 39	900 c.f.m. and over	Thousands	(NA)	.5	16.9		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
	AIR AND GAS COMPRESSORS--Con.						
	Air and gas compressors and vacuum pumps--Con.						
	As reported in Current Industrial Reports MA-35P, Pumps and Compressors--Con.						
	Gas compressors:						
	Stationary, centrifugal and axial:						
35631 42	Natural gas	Thousands	(NA)	.4	109.3	.1	22.7
35631 43	All other gases		(NA)	.2	69.8		
	Reciprocating and rotary:						
	Stationary reciprocating:						
	Integral engines:[9]						
35631 46	2,000 hp and under		(NA)	.6	60.4	.3	54.1
35631 47	2,001 to 4,000 hp		(NA)				
35631 48	4,001 hp and over		(NA)	(Z)	13.8		
	Other than integral engines:						
35631 51	1,000 hp and under		(NA)	3.3	59.0	2.2	36.6
35631 53	1,001 hp and over		(NA)	.1	34.5		
35631 56	Stationary rotary positive		(NA)	.1	3.7		
35631 81	Pneumatic (air) power compressors and motors[10]		(NA)	369.7	36.8	368.5	24.2
35631 89	Other compressors	Thousands	(NA)	101.8	11.4		
	Vacuum pumps, except laboratory:						
35631 93	Moderate (low) vacuum	Thousands	(NA)	150.7	48.3	183.9	31.3
35631 94	High vacuum	Thousands	(NA)	66.3	38.6	12.9	14.0
35631 00	Air and gas compressors and vacuum pumps, n.s.k		(NA)	(X)	13.2	(X)	-
35632 --	Air and gas compressor and vacuum pump parts and attachments, except refrigeration compressors:						
35632 15	Air and gas compressor and vacuum pump parts and attachments, except refrigeration compressors		41	X	384.1	(X)	148.4
35635 --	Industrial spraying equipment		(NA)	(S)	221.6	(X)	93.5
35635 31	Power paint-spraying outfits and liquid power sprayers, except agricultural	Thousands	24	(S)	221.6	(X)	93.1
35635 51	Hand sprayers, except agricultural and flame		3			(X)	.4
35635 00	Industrial spraying equipment, n.s.k		(NA)	(X)	-	(X)	-
35630 00	Air and gas compressors, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	15.9	(X)	[11]
35630 02	Air and gas compressors, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	11.5	(X)	[11]
	BLOWERS AND FANS						
3564- --	Total		(NA)	(X)	1,422.3	(X)	682.0
35643 --	Centrifugal blowers and fans		(NA)	(X)	354.1	(X)	181.0
35643 17	Blower-filter units	Thousands	10	(S)	18.2	(X)	7.3
35643 19	Classes I and II fans (over 1-1/2 inches to 6-3/4 inches maximum total pressure)		27	(S)	58.0	(X)	26.3
35643 21	Classes III and IV fans (over 6-3/4 inches maximum total pressure)		14	(S)	23.9	(S)	31.2
35643 23	Furnace and lightweight air-conditioning blowers		6	(S)	38.9	(X)	23.3
35643 24	Industrial fans, excluding blowers, turbo-blowers, and multistage blowers		31	(S)	127.5	(X)	32.3
35643 27	Positive displacement blowers (excluding turbo-blowers)		6	(S)	40.8	(X)	29.0
35643 28	Turbo-blowers (single stage, single and double inlet)		9	**7.0	9.1	(X)	9.3
35643 29	Multistage blowers		4	(S)	11.9	(X)	7.2
35643 31	Small housed blowers (utility sets)	Thousands	11	(S)	17.7	(X)	15.1
35643 00	Centrifugal blowers and fans, n.s.k		(NA)	(X)	8.1	(X)	[12]
35644 --	Propeller fans and accessories, axial fans, and power roof ventilators		(NA)	(X)	303.3	(X)	159.9
	Axial fans:						
35644 13	Directly connected to driver	Thousands	20	(S)	68.8	(X)	24.2
35644 15	Belt driven		19	(S)	21.2	(X)	8.7
	Propeller fans and accessories:						
	Industrial:						
35644 33	Directly connected to driver		20	(S)	48.6	(X)	5.5
35644 35	Belt driven	Thousands	15	(S)	27.9	(X)	22.8
35644 37	Penthouses, shutters, guards, and other accessories		11	(X)	15.7	(X)	2.8
35644 39	Parts for blowers and fans		26	(X)	55.7	(X)	31.4
	Power roof ventilators group:						
35644 41	Axial and propeller type	Thousands	14	(S)	20.5	(X)	9.4
35644 43	Centrifugal type	Thousands	8	150.9	31.3	198.3	28.1
35644 45	Parts for power roof ventilators		5	(X)	4.5	(X)	2.6
35644 00	Propeller fans and accessories, axial fans, and power roof ventilators, n.s.k		(NA)	(X)	9.1	(X)	[12]24.4

See footnotes at end of table.

Table 6a. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
	BLOWERS AND FANS--Con.						
35645 --	Dust collection and other air purification equipment for heating, ventilating, and air-conditioning systems	.....	(NA)	(X)	260.7	(X)	121.3
35645 31	Air washers	Thousands	7	(S)	23.3	(X)	(13)
35645 41	Electrostatic precipitation equipment		8	(S)	34.9	(X)	24.4
35645 43	Air filter for air-conditioners and furnaces, etc., of 2400 CFM and under	Thousands	23	(S)	64.8	(X)	61.7
35645 49	Other dust collection and other air purification equipment, including air filters for air-conditioners and furnaces (over 2400 CFM)	.....	42	(X)	126.7	(X)	13 35.2
35645 00	Dust collection and other air purification equipment for heating, ventilating, and air-conditioning systems, n.s.k.	.....	(NA)	(X)	11.0	(X)	-
35646 --	Dust collection and other air purification equipment for industrial gas cleaning systems:						
	As reported in the census of manufactures	.....	62	(X)	381.7	(X)	198.0
	As reported in Current Industrial Reports MA-35J, Selected Industrial Air Pollution Control Equipment	Thousands	(NA)	(X)	14 383.6	(X)	199.4
	Particulate emissions collectors:						
35646 51	Electrostatic precipitators		(NA)	.2	111.9	.3	76.1
35646 54	Fabric filters		(NA)	14.2	116.5	12.1	73.2
35646 55	Mechanical collectors		(NA)	5.9	22.2	7.6	17.2
35646 58	Wet scubbers		(NA)	1.6	23.4	1.4	22.9
	Gas emissions control devices:						
35646 62	Catalytic oxidation systems		(NA)	(Z)	5.0		
35646 64	Thermal and direct oxidation systems		(NA)	.4	22.9		
35646 65	Scubber (gas absorber, non-FGD)		(NA)	.6	2.7		
35646 66	Flue gas desulfurization systems		(NA)	(Z)	41.6	.1	10.0
35646 67	Gas absorbers		(NA)	.1	3.5		
35646 68	Other types of industrial air pollution control equipment	Thousands	(NA)	(X)	33.9		
35640 00	Blowers and fans, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	66.8	(X)	9.7
35646 02	Blowers and fans, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	55.7	(X)	12.1

1977 product code	Product	1977			1972	
		Companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
			Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
	INDUSTRIAL PATTERNS					
3565- --	Total	(NA)	(X)	411.9	(X)	234.4
35650 --	Industrial patterns, except shoe patterns:[15]					
35650 11	Foundry patterns	298	(X)	213.4	(X)	136.0
35650 98	All other industrial patterns, except shoe patterns	52	(X)	53.6	(X)	35.6
35650 00	Industrial patterns, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	95.3	(X)	29.3
35650 02	Industrial patterns, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	49.5	(X)	33.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
	SPEED CHANGERS, DRIVES, AND GEARS						
3566- --	Total	.....	(NA)	(X)	1,199.7	(X)	593.0
35660 --	Geared speed changers, industrial high-speed drives, mechanical-variable speed drives, and unassembled gearing (loose gears, speed reducers and increasers, mechanical-variable speed drives, and mechanical-power transmissions, except transmissions or gearing manufactured as integral components of automobiles, trucks, buses, and aircraft):						
35660 11	Mechanical-variable speed changers and parts, excluding electric motor	Thousands	24	(S)	100.8	127.5	72.1
35660 21	Industrial high-speed drives, fixed ratio (pitch line velocity of 5,000 feet per minute or over, and pinion speeds of 3,600 rpm and over)		11	**91.7	74.1	(S)	22.6
	Speed reducers, fixed ratio, enclosed, except gear motors:						
	Worm gear reducers:						
35660 17	6-inch centers and above		12	**27.4	25.2	(S)	29.5
35660 18	3-inch to 5.99-inch centers		13	**191.8	19.9		
35660 24	Below 3-inch centers		16	*243.1	21.8	243.5	13.2
	Shaft mounted reducers and screw conveyor drives, including repair parts but excluding shaft mounted helical gear motors and worm gear reducers:						
35660 25	Hollow shaft diameter, 2-1/2 inches and below		9	*97.6	24.7	(S)	22.2
35660 29	Hollow shaft diameter, above 2-1/2 inches		7	(S)	26.8		
	Helical, herringbone, spur and spiral bevel reducers:						
35660 27	Above 15-inch low-speed centers		10	(S)	82.6	(S)	21.4
35660 28	15-inch low-speed centers and below		26	(S)	68.8	(S)	29.9
	Gear motors:						
	Worm gear motors, including "C" flange units:						
35660 31	Below 1/6 horsepower		10	387.2	21.6	457.9	25.4
35660 32	1/6 horsepower up to but excluding 1 horsepower		13	297.3	22.6		
35660 35	1 horsepower to 5 horsepower		10	260.8	20.6	29.4	8.1
35660 36	Above 5 horsepower		5	4.0	3.2	14.6	6.7
	Helical, herringbone, spur, or spiral bevel gear motors, including scoop-mounted units:						
35660 33	Below 1/6 horsepower		12	1,579.1	27.4	966.7	38.9
35660 40	1/6 horsepower up to but excluding 1 horsepower		11	112.2	17.1		
35660 38	1 horsepower to 5 horsepower		12	(S)	24.7	50.9	16.4
35660 39	Above 5 horsepower	Thousands	11	(S)	35.9	23.5	19.1
	Loose gears, pinions, and racks excluding spare parts for reducers:						
35660 41	Fine pitch (19.99 diametral pitch and finer)	.....	27	(X)	35.9	(X)	36.4
	Coarse pitch (below 19.99 diametral pitch):						
	Helical, herringbone, and spur gears:						
35660 42	24 inches and below	.....	65	(X)	136.7	(X)	114.1
35660 43	Above 24 inches diameter through 72 inches diameter	.....	32	(X)	49.4		
35660 44	Above 72 inches diameter	.....	14	(X)	21.9		
35660 45	Worms and worm gearing	.....	32	(X)	34.2		
35660 46	Others, including bevel gears and racks	.....	40	(X)	98.6		
35660 51	Other parts and components for speed changers, including housings, shafts, pins, and spacers	.....	37	(X)	84.1	(X)	24.7
35660 00	Speed changers, drives, and gears, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	78.1	(X)	82.9
35660 02	Speed changers, drives, and gears, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	43.0	(X)	9.4
	INDUSTRIAL FURNACES AND OVENS						
3567- --	Total	.....	(NA)	(X)	707.1	(X)	341.1
35671 --	Electrical industrial furnaces and ovens, metal processing	.....	(NA)	(X)	140.3	(X)	67.5
	Electric furnaces, excluding induction:						
35671 11	Metal melting	Number	7	(S)	21.0	(S)	19.0
35671 21	Metal processing and heat treating (such as annealing, hardening, carburizing, and porcelain enameling furnaces)		26	(S)	56.2	(S)	17.6
35671 43	Electric, including infrared and extruding	Number	27	(S)	60.6	11,852	28.5
35671 00	Electric industrial furnaces and ovens, metal processing, n.s.k.	.....	(NA)	(X)	2.5	(X)	2.6
35672 --	Fuel-fired industrial furnaces and ovens, metal processing	.....	(NA)	(X)	144.4	(X)	97.2
35672 11	Metal melting, including blast furnaces and cupolas	Number	5	17,259	24.0	(S)	18.3
35672 21	Metal processing and heat treating (such as annealing, hardening, carburizing, and porcelain enameling furnaces)		26	(S)	68.2	(S)	43.0
35672 41	Industrial ovens		22	(S)	51.0	(S)	30.5
35672 61	Hot rolling, forging, forming, and extruding	Number	1			(S)	4.7
35672 00	Fuel-fired industrial furnaces and ovens, metal processing, n.s.k.	.....	(NA)	(X)	1.2	(X)	.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
	INDUSTRIAL FURNACES AND OVENS--Con.						
35674 --	High-frequency induction and dielectric heating equipment	.....	(NA)	(X)	[16]133.4	(X)	56.0
	Induction furnaces and heating equipment:						
35674 11	Radio frequency type, including spark gap and line and motor-generator set frequency types, except metal melting.	Number.....	9	*689	14.5	(S)	7.3
35674 17	Metal melting induction furnaces	↕	8	395	23.8	(S)	37.1
35674 19	All other induction furnaces and heating equipment	Number.....	38	(S)	[16]84.6		
35674 31	Dielectric heating equipment	.....	6	(X)	8.4	(X)	11.6
35674 00	High-frequency induction and dielectric heating equipment, n.s.k.	.....	(NA)	(X)	2.1	(X)	([17])
35675 --	Other electrical equipment for industrial use, (except soldering irons) and parts, attachments, and components	.....	(NA)	(X)	204.1	(X)	91.0
	Industrial electric heating units and devices, except heating units for electric furnaces:						
35675 51	Tubular heaters	.....	7	(X)	26.4	(X)	47.3
35675 59	All other industrial electric heating units and devices, including strip, space, and ring heaters; water and oil immersion heaters; glue and compound pots, etc	.....	24	(X)	90.2		
35675 91	Parts, attachments, and components for industrial furnaces and ovens, including electric heating units (sold separately)	.....	45	(X)	86.0	(X)	37.7
35675 00	Other electrical equipment for industrial use, (except soldering irons) and parts, attachments, and components, n.s.k.	.....	(NA)	(X)	1.5	(X)	[17]6.0
35670 00	Industrial furnaces and ovens, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	[15]67.1	(X)	20.7
35670 02	Industrial furnaces and ovens, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	17.8	(X)	8.7
	POWER TRANSMISSION EQUIPMENT, N.E.C.						
3568- --	Total	.....	(NA)	(X)	1,710.9	(X)	975.0
35681 --	Plain bearings and bushings	.....	(NA)	(X)	275.1	(X)	121.0
35681 15	Plain bearings and bushings, unmounted, machined, excluding carbon and graphite, all types, except automotive	.....	54	(X)	243.2	(X)	111.2
35681 51	Mounted bearings, plain	.....	7	(X)	27.5	(X)	9.8
35681 00	Plain bearings and bushings, n.s.k.	.....	(NA)	(X)	4.4	(X)	-
35683 --	Power transmission equipment, n.e.c., excluding plain bearings and bushings and automobiles, trucks, buses, and aircraft	.....	(NA)	(X)	1,419.1	(X)	854.0
	Clutches:						
35683 11	Friction type	Thousands.....	12	(S)	73.4	641.3	32.3
35683 13	Hydraulic type, including hydraulic couplings	↕	9	304.9	36.5	(S)	92.8
35683 19	All other clutches	↕	18	(S)	68.9		
35683 31	Packaged hydraulic drives, including hydrostatic transmission (internal control), variable speed drives (external control), torque control drives (external control), and power limiters (external control)	↕	10	8.2	37.3		
	Flexible couplings:	↕					
	1-inch nominal bore and over:	↕					
35683 21	Gear type	↕	10	(S)	40.7	(S)	24.6
35683 22	Other than gear type	↕	16	**3,566.2	57.9	(S)	22.3
35683 24	Less than 1-inch nominal bore	↕	9	*1,849.4	11.7	(S)	8.8
35683 25	Universal joints	↕	13	(S)	138.4	(S)	64.9
35683 27	Flexible shafts	Thousands.....	4			308.1	1.3
	Chains for sprocket drives:						
	ASA standard roller chain:						
35683 32	3-inch and under in pitch	.....	8	(X)	122.3	(X)	85.2
35683 34	Over 3-inch pitch	.....	4	(X)	10.9		
35683 35	Other chains for sprocket drives	.....	9	(X)	129.7	(X)	85.7
	Sprockets:						
35683 43	For ASA standard roller chain	.....	19	(X)	65.7	(X)	41.1
35683 45	Other sprockets	.....	11	(X)	21.0	(X)	13.4
35683 51	Pulleys	Thousands.....	13	(S)	29.9	431.0	16.8
	Sheaves:	↕					
35683 61	Single drive	↕	7	5,313.5	16.4	(NA)	([18])
35683 65	Multiple drive	Thousands.....	7	(S)	43.7	2,741.0	17.4
35683 91	Mechanical valve operators, excluding valve or motor	.....	3			(NA)	([18])
35683 93	Inboard marine propulsion gear transmissions (less than 1,200 hp), excluding outboard gear drives	.....	1	(X)	36.4		
35683 95	Inboard marine propulsion gear transmissions (1,200 hp and over), including reversing, speed changing, and turbine-driven gear drives	.....	4	(X)	31.3	(X)	13.5
35683 96	Outboard gear drives (inboard prime mover)	.....	3				
35683 97	Mechanical seals for rotating shafts	.....	5	(X)	50.0		
35683 98	Other mechanical power-transmission equipment, except aircraft, automobile, truck, and bus	.....	36	(X)	385.3	(X)	[18]306.0

See footnotes at end of table.

Table 6a. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[4]	Value (million dollars)	Quantity	Value (million dollars)
	POWER TRANSMISSION EQUIPMENT, N.E.C.--Con.						
	Power transmission equipment, n.e.c., excluding plain bearings and bushings and automobiles, trucks, buses, and aircraft-Con.						
35683 00	Power transmission equipment, n.e.c., excluding plain bearings and bushings and equipment for automobiles, trucks, buses, and aircraft, n.s.k.		(NA)	(X)	11.7	(X)	27.9
35680 00	Power transmission equipment, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	4.4	(X)	-
35680 02	Power transmission equipment, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	12.2	(X)	-
	GENERAL INDUSTRIAL MACHINERY, N.E.C.						
3569- --	Total		(NA)	(X)	2,689.4	(X)	1,132.8
35691 --	Packing and packaging machinery, except for food products		(NA)	(X)	440.5	(X)	177.4
35691 01	Cartoning machines	Number	17	1,750	16.4		
35691 03	Thermoforming machines		3	(S)	43.1		
35691 04	Bag opening, filling, and closing machines		17				
35691 05	Forming-filling-sealing machines (must perform all three)		12	(S)	27.6		
35691 06	Wrapping, banding, bundling, and fastening machines, including shrink wrappers and shrink tunnels		31	**6,437	91.7		
35691 07	Vacuum and gas packaging machines		2	(S)	23.3	(S)	177.4
35691 08	Filling machines, including filling machines which also cap, seal, lid, or close		16				
35691 09	Labeling and code-making machines		27	(S)	50.6		
35691 11	Case forming, opening, loading, unloading, and sealing machines		16	1,673	25.8		
35691 15	Capping, sealing, lidding machines, including can sealing machines but excluding filling machines		10	(S)	11.1		
35691 18	Other, including combinations of machinery classified in more than one of the above	Number	55	(S)	112.8		
35691 00	Packing and packaging machinery, n.s.k.		(NA)	(X)	[15]38.1		
35692 --	Filters and strainers, including purification, clarification, and solids removal, but excluding internal combustion engine filters, dust collection and air purification equipment, air filters for comfort heating and air conditioning equipment, and mining screens		(NA)	(X)	630.0	(X)	275.4
	Containment (housing) devices:						
35692 11	Pressorized, excluding vacuum	Thousands	63	326.1	159.3		
35692 14	Vacuum		14	(S)	77.0		
35692 16	Gravity	Thousands	30	(S)	111.9		
35692 19	Parts and accessories sold separately		41	(X)	81.7	(X)	275.4
	Media:						
35692 21	Reuseable (cleanable)		30	(X)	55.4		
35692 29	Non-reusable		24	(X)	104.8		
35692 00	Filters and strainers, n.s.k.		(NA)	(X)	[15]39.9		
35699 --	General industrial machinery, n.e.c., except packing and packaging machinery, filters, and strainers		(NA)	(X)	1,311.6	(X)	535.5
35699 31	Gas generating equipment	Thousands	15	(S)	48.7	(X)	8.2
35699 32	Gas separating equipment		8	.7	25.1	(NA)	([19])
35699 33	Steam and vapor separators		3	.1	6.1	(NA)	([19])
35699 34	Dryers, compressed air and gas		11	435.2	20.4	(NA)	([19])
35699 39	Dehydrators, low pressure, air, and gas		2				
35699 41	Lubrication systems, industrial, centralized, and automatic		15	266.8	49.6	(NA)	([19])
35699 43	Sifting and screening machines for general industrial use		7	(S)	23.8	(NA)	([19])
35699 45	Presses, metal baling		4	*.1	7.4	(NA)	([19])
35699 51	Centrifugals and separators, except cream, grain, and berry separators		15	(S)	87.8	(S)	47.8
35699 61	Automatic fire sprinkler equipment		14	(S)	50.8	(X)	53.3
35699 71	Pneumatic jacks		4	(S)	27.0	(S)	24.0
35699 73	Hydraulic jacks	Thousands	23	(S)	52.3		
35699 74	Screw jacks, complete, and jack screws sold separately		5	5.1	7.4	(NA)	([19])
35699 98	All other general industrial machinery and equipment		285	(X)	737.9	(S)	[19]402.2
35699 00	General industry machinery, n.e.c., except packing and packaging machinery, filters, and strainers, n.s.k.		(NA)	(X)	[15]167.3	(X)	-
35690 00	General industrial machinery, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	251.4	(X)	116.5
35690 02	General industrial machinery, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	55.9	(X)	28.0

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

Footnotes continued on next page.

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]Included only at product class level. Value of drivers (electric motors or prime movers) shipped with individual products is excluded, except in value for product codes 35613 13 through 35613 70. Extent to which some respondents may have included value of drivers in value of specific pumps is unknown.

[3]Excludes hydraulic fluid power pumps for power steering units in passenger automobiles.

[4]For some establishments data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[5]Includes value of drivers.

[6]For 1972, product codes 35621 15 and 35621 17 were included with product code 35621 21.

[7]For 1972, data do not include thrust roller bearings, which were reported separately. Their value was $39.4, which is not included in product class total for 1972, but is included in industry total.

[8]Only total figures are reported. Except for product codes 35631 46, 35631 47, and 35631 48, value figures for individual products exclude value of drivers (electric motors or internal combustion engines) shipped. Extent to which some respondents may have included value of drivers with specific compressors or pumps is not known.

[9]Includes value of drivers.

[10]Includes compressors for air brake systems used in transportation equipment.

[11]Included with industry 3561. Not available separately because of manner in which 1972 data were reported and tabulated.

[12]For 1972, product code 35643 00 was combined with product code 35644 00.

[13]For 1972, product code 35645 31 was combined with product code 35645 49.

[14]The value of shipments published in the MA-35J survey includes receipts for activities of facilities which do not perform manufacturing as their major operation. Such establishments have been excluded from the census of manufacturers since their primary activity is not considered manufacturing. Thus the value of product shipments shown in this report will not agree with the figure shown in the MA-35J report.

[15]In 1977, in a new procedure, small establishments with more than 5 employees reported on short forms, which requested only product class totals. These data are included in the codes ending in "00." Thus 1977 data for product codes (7 digits) may not be completely comparable with 1972 data.

[16]For the 1977 final publication, product codes 35595 91 and 35595 93 were re-coded to product 35674 19. Therefore data for this product, 35674 -- and 3567- -- may not be comparable to 1972 data.

[17]For 1972, product code 35674 00 was combined with product code 35675 00 to avoid disclosing operations of individual companies.

[18]For 1972, product codes 35683 61, 35683 91, 35683 96, 35683 97, and 35683 98 were combined.

[19]For 1972, product codes 35699 32, 35699 33, 35699 34, 35699 39, 35699 41, 35699 43, 35699 45, and 35699 74 were included with product code 35699 98.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35611, INDUSTRIAL PUMPS, EXCEPT FLUID POWER PUMPS		
United States	1,386.7	611.9
New England Division:		
Massachusetts	23.6	CC
Rhode Island	10.7	6.3
Middle Atlantic Division:		
New York	109.9	31.5
New Jersey	136.9	60.5
Pennsylvania	117.0	68.0
East North Central Division:		
Ohio	147.7	70.0
Indiana	31.3	22.0
Illinois	97.1	46.7
Michigan	32.2	14.3
Wisconsin	15.3	21.4
West North Central Division:		
Minnesota	31.7	EE
Missouri	10.5	AA
South Atlantic Division:		
Georgia	19.7	EE
West South Central Division:		
Oklahoma	49.8	19.2
Texas	40.0	11.6
Mountain Division:		
Colorado	17.3	CC
Pacific Division:		
California	303.1	GG
35612, HYDRAULIC FLUID POWER PUMPS AND MOTORS		
United States	488.9	261.6
East North Central Division:		
Ohio	71.5	39.1
Illinois	27.6	26.9
Michigan	38.4	20.1
Wisconsin	28.0	EE
West North Central Division:		
Minnesota	63.5	33.8
West South Central Division:		
Texas	8.0	(NA)
35613, DOMESTIC WATER SYSTEMS AND PUMPS		
United States	223.8	151.1
East North Central Division:		
Ohio	31.8	28.3
West South Central Division:		
Texas	5.7	4.3
Pacific Division:		
California	30.3	EE
35615, OTHER PUMPS AND PUMPING EQUIPMENT		
United States	395.7	186.4
Middle Atlantic Division:		
New York	5.9	1.7
East North Central Division:		
Ohio	32.4	FF
Illinois	51.6	CC
Wisconsin	14.3	BB
West South Central Division:		
Texas	123.0	53.3
35615, OTHER PUMPS AND PUMPING EQUIPMENT--Con.		
Pacific Division:		
California	29.0	10.2
35616, PARTS AND ATTACHMENTS FOR PUMPS		
United States	861.6	346.5
New England Division:		
Massachusetts	25.7	5.3
Rhode Island	4.4	BB
Middle Atlantic Division:		
New York	31.0	13.5
New Jersey	65.3	24.4
Pennsylvania	53.7	13.1
East North Central Division:		
Ohio	77.3	34.2
Indiana	21.1	10.2
Illinois	83.7	26.2
Michigan	41.1	21.5
West North Central Division:		
Iowa	25.1	CC
Missouri	23.6	7.0
East South Central Division:		
Tennessee	9.0	(NA)
West South Central Division:		
Oklahoma	22.7	CC
Texas	92.5	33.5
Pacific Division:		
California	85.1	FF
35621, BALL BEARINGS, COMPLETE		
United States	749.9	474.2
New England Division:		
Connecticut	265.4	GG
Middle Atlantic Division:		
New York	70.2	59.4
East North Central Division:		
Indiana	30.0	18.8
Illinois	39.7	26.1
South Atlantic Division:		
South Carolina	14.3	BB
35622, TAPER ROLLER BEARINGS (INCLUDING CUPS AND CONES)		
United States	748.6	420.0
East North Central Division:		
Michigan	3.0	GG
South Atlantic Division:		
South Carolina	83.1	EE
35623, ROLLER BEARINGS, EXCEPT TAPER, COMPLETE		
United States	472.9	280.9
Middle Atlantic Division:		
New York	27.5	EE
New Jersey	40.0	34.9
East North Central Division:		
Ohio	46.9	FF
Indiana	64.0	42.8
Illinois	25.7	18.3

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35629, BALL AND ROLLER BEARING PARTS AND COMPONENTS		
United States	243.1	138.2
New England Division:		
Connecticut	43.0	FF
Middle Atlantic Division:		
Pennsylvania	24.2	FF
East North Central Division:		
Indiana	18.6	9.2
Illinois	7.1	CC
35631, AIR AND GAS COMPRESSORS AND VACUUM PUMPS		
United States	1,290.3	480.8
Middle Atlantic Division:		
New York	257.3	82.6
Pennsylvania	204.6	84.3
East North Central Division:		
Ohio	163.4	29.7
Illinois	129.2	63.1
Wisconsin	26.1	12.1
West South Central Division:		
Oklahoma	19.3	4.9
Texas	30.8	EE
Pacific Division:		
California	39.0	EE
35632, PARTS FOR AIR AND GAS COMPRESSORS AND VACUUM PUMPS		
United States	384.1	148.4
Middle Atlantic Division:		
New York	144.8	32.2
Pennsylvania	46.1	37.5
East North Central Division:		
Ohio	27.8	EE
West South Central Division:		
Texas	6.7	6.4
35635, INDUSTRIAL SPRAYING EQUIPMENT		
United States	221.6	93.5
East North Central Division:		
Illinois	93.1	GG
West South Central Division:		
Texas	5.4	BB
35643, CENTRIFUGAL BLOWERS AND FANS		
United States	354.1	181.0
Middle Atlantic Division:		
New York	46.9	24.1
Pennsylvania	11.9	4.4
East North Central Division:		
Ohio	38.3	23.0
Illinois	49.3	FF
Michigan	34.0	20.5
West North Central Division:		
Minnesota	15.9	BB
Pacific Division:		
California	16.2	CC
35644, PROPELLER AND AXIAL FANS AND POWER ROOF VENTILATORS		
United States	303.3	159.9
Middle Atlantic Division:		
New York	55.4	(NA)
Pennsylvania	9.3	BB
East North Central Division:		
Ohio	47.8	27.0
Indiana	36.0	12.9
Illinois	19.0	11.5
Michigan	10.1	EE
West South Central Division:		
Texas	10.3	CC
Pacific Division:		
California	19.9	4.3
35645, AIR PURIFICATION EQUIPMENT FOR ENVIORONMENTAL SYSTEMS		
United States	260.7	121.3
Middle Atlantic Division:		
New Jersey	12.5	BB
Pennsylvania	17.1	14.1
East North Central Division:		
Ohio	20.1	12.5
Illinois	19.1	5.2
Michigan	6.2	BB
Wisconsin	5.3	BB
South Atlantic Division:		
North Carolina	24.1	4.9
East South Central Division:		
Kentucky	14.2	EE
Tennessee	15.1	BB
West South Central Division:		
Texas	9.9	AA
Pacific Division:		
California	43.1	18.8
35646, AIR PURIFICATION EQUIPMENT FOR INDUSTRIAL GASES		
United States	381.7	198.0
Middle Atlantic Division:		
New York	9.4	EE
New Jersey	42.9	47.3
Pennsylvania	87.0	CC
East North Central Division:		
Ohio	35.7	7.3
Indiana	3.2	EE
Illinois	3.3	CC
Michigan	7.7	6.3
West South Central Division:		
Texas	12.0	AA
Pacific Division:		
California	22.8	10.3
35671, ELECTRICAL INDUSTRIAL FURNACES AND OVENS		
United States	140.3	67.5
New England Division:		
Connecticut	3.6	(NA)
Middle Atlantic Division:		
New York	3.1	(NA)
New Jersey	8.6	CC
Pennsylvania	32.7	10.3

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** - Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35671, ELECTRICAL INDUSTRIAL FURNACES AND OVENS--Con.		
East North Central Division:		
Ohio	20.1	2.1
Illinois	21.9	15.8
Michigan	9.0	2.8
Wisconsin	7.4	CC
Pacific Division:		
California	2.3	CC
35672, FUEL-FIRED INDUSTRIAL FURNACES AND OVENS		
United States	144.4	97.2
Middle Atlantic Division:		
New Jersey	12.1	7.6
Pennsylvania	15.8	24.2
East North Central Division:		
Ohio	33.8	27.4
Michigan	38.0	14.8
Pacific Division:		
California	5.3	BB
35674, INDUCTION AND DIELECTRIC HEATING EQUIPMENT		
United States	133.4	(NA)
New England Division:		
Massachusetts	10.6	(NA)
East North Central Division:		
Ohio	26.7	(NA)
Michigan	14.4	(NA)
35675, INDUSTRIAL ELECTRICAL HEATING EQUIPMENT, N.E.C		
United States	204.1	(NA)
New England Division:		
Massachusetts	5.3	(NA)
Middle Atlantic Division:		
New Jersey	11.4	(NA)
Pennsylvania	49.1	(NA)
East North Central Division:		
Ohio	27.6	(NA)
Illinois	7.7	(NA)
East North Central Division:		
Michigan	7.5	(NA)
Wisconsin	7.1	(NA)
Pacific Division:		
California	11.2	(NA)
35681, PLAIN BEARINGS AND BUSHINGS		
United States	275.1	121.0
Middle Atlantic Division:		
New Jersey	8.8	12.7
East North Central Division:		
Ohio	46.6	27.8
Indiana	33.2	15.4
Illinois	10.9	6.2
Michigan	24.2	BB
Wisconsin	23.7	8.4
East South Central Division:		
Tennessee	7.4	BB
West South Central Division:		
Texas	2.8	(NA)
Pacific Division:		
California	29.3	EE
35683, POWER TRANSMISSION EQUIPMENT, N.E.C.		
United States	1,419.1	854.0
New England Division:		
Massachusetts	68.3	43.5
Connecticut	20.3	14.0
Middle Atlantic Division:		
New York	47.1	40.7
New Jersey	15.6	8.7
Pennsylvania	63.2	36.0
East North Central Division:		
Ohio	61.4	39.1
Indiana	299.2	182.4
Illinois	184.6	113.3
Michigan	178.9	130.9
Wisconsin	157.7	93.7
West North Central Division:		
Minnesota	15.0	10.8
West South Central Division:		
Arkansas	18.8	BB
Texas	41.0	16.2
Pacific Division:		
California	35.3	CC
35691, PACKING AND PACKAGING MACHINERY, EXCEPT FOR FOOD		
United States	440.5	177.4
New England Division:		
Massachusetts	41.1	EE
Middle Atlantic Division:		
New York	37.4	11.0
New Jersey	48.9	9.3
Pennsylvania	13.0	9.1
East North Central Division:		
Ohio	40.1	EE
Indiana	17.5	BB
Illinois	72.9	29.2
Michigan	7.9	7.1
Wisconsin	47.2	22.0
West North Central Division:		
Minnesota	19.4	9.1
South Atlantic Division:		
Georgia	4.7	7.3
Florida	11.6	BB
Pacific Division:		
Washington	15.9	AA
California	19.4	17.2
35692, INDUSTRIAL FILTERS AND STRAINERS		
United States	630.0	275.4
New England Division:		
Massachusetts	34.0	FF
Connecticut	47.2	FF
Middle Atlantic Division:		
New York	63.0	20.2
New Jersey	33.5	13.0
Pennsylvania	30.5	18.5
East North Central Division:		
Ohio	26.7	11.6
Illinois	35.9	14.0
Michigan	59.6	17.8
Wisconsin	15.2	CC

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35692, INDUSTRIAL FILTERS AND STRAINERS--Con.		
West North Central Division:		
Minnesota	8.6	BB
South Atlantic Division:		
North Carolina	21.6	EE
Pacific Division:		
Washington	2.6	(NA)
California	47.8	FF
35699, OTHER GENERAL INDUSTRIAL MACHINERY		
United States	1,311.6	535.5
New England Division:		
New Hampshire	7.3	BB
Massachusetts	62.4	12.3
Rhode Island	4.1	CC
Connecticut	68.5	11.2
Middle Atlantic Division:		
New York	127.0	63.0
New Jersey	53.6	24.9
Pennsylvania	143.1	78.8
East North Central Division:		
Ohio	123.4	24.6
Indiana	28.2	16.7
Illinois	89.0	31.4
Michigan	119.2	78.3
Wisconsin	47.1	42.0

Product class and geographic area	Value of product shipments	
	1977	1972
35699, OTHER GENERAL INDUSTRIAL MACHINERY--Con.		
West North Central Division:		
Minnesota	20.2	15.8
Iowa	4.4	(NA)
Missouri	21.1	12.8
Nebraska	2.2	(NA)
Kansas	9.1	(NA)
South Atlantic Division:		
Virginia	14.2	6.7
North Carolina	28.0	10.7
Georgia	17.9	6.6
Florida	5.1	7.1
East South Central Division:		
Kentucky	12.0	(NA)
Tennessee	10.4	(NA)
Alabama	7.8	CC
West South Central Division:		
Louisiana	8.1	(NA)
Texas	51.5	EE
Mountain Division:		
Colorado	4.1	(NA)
Pacific Division:		
Washington	5.6	(NA)
Oregon	5.0	CC
California	139.1	FF

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(NA) Not available. n.e.c. Not elsewhere classified.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3561-	Pumps and pumping equipment	3,522.8	2,924.7	2,623.0	2,297.4	2,012.7	1,632.9	1,375.0	900.9
35611	Industrial pumps, except fluid power pumps	1,386.7	1,259.2	1,048.9	859.5	770.6	611.9	436.9	321.9
35612	Hydraulic fluid power pumps and motors	488.9	405.0	394.7	439.4	344.2	[2]261.6	[2]218.6	134.9
35613	Domestic water systems and pumps	223.8	185.8	203.6	165.9	167.6	151.1	140.3	83.7
35615	Other pumps and pumping equipment, n.e.c.	395.7	345.1	288.5	233.1	224.4	[2]186.4	[2]126.2	91.9
35616	Parts and attachments for pumps	861.6	720.0	660.8	547.7	427.0	[3]346.5	[3]383.6	250.1
35610	Pumps and compressors, n.s.k.	166.1	(9.6)	(26.5)	(51.8)	78.9	[4]75.4	[4]69.4	18.4
3562-	Ball and roller bearings	2,444.5	2,195.2	2,046.3	1,949.9	1,695.7	1,418.7	1,292.0	961.0
35621	Ball bearings, complete	749.9	654.6	645.9	624.3	533.0	474.2	472.7	384.1
35622	Taper roller bearings (including cups and cones)	748.6	684.3	625.7	582.9	516.4	420.0	367.7	446.3
35623	Roller bearings, except taper, complete	472.9	426.7	375.0	362.6	337.8	280.9	225.0	
35624	Mounted bearings, except plain	213.1	200.3	188.1	175.3	136.9	100.9	96.0	62.3
35629	Ball and roller bearing parts and components	243.1	212.4	207.7	200.1	166.9	138.2	118.7	65.0
35620	Ball and roller bearings, n.s.k.	16.8	16.9	3.9	4.7	4.7	4.5	12.1	3.3
3563-	Air and gas compressors	1,923.4	1,607.7	1,443.5	1,198.4	904.2	722.7	(NA)	(NA)
35631	Air and gas compressors and vacuum pumps	1,290.3	1,085.2	974.9	739.4	588.6	480.8	501.0	292.3
35632	Parts for air and gas compressors and vacuum pumps	384.1	408.9	356.8	352.6	204.6	148.4	[3]	[3]
35635	Industrial spraying equipment	221.6	113.6	99.6	103.6	104.8	93.5	71.3	56.1
35630	Air and gas compressors, n.s.k.	27.4	-	12.2	(2.8)	6.2	-	[4]	[4]
3564-	Blowers and fans	1,422.3	1,399.6	1,247.6	1,034.4	905.4	682.0	499.1	299.4
35643	Centrifugal blowers and fans	354.1	381.7	321.5	270.4	248.2	181.0	294.9	191.2
35644	Propeller and axial fans and power roof ventilators	303.3	243.9	214.3	183.0	171.4	159.9		
35645	Air purification equipment for environmental systems	260.7	287.9	292.3	245.6	178.0	121.3	182.5	95.0
35646	Air purification equipment for industrial gases	381.7	459.7	389.4	303.7	267.3	198.0		
35640	Blowers and fans, n.s.k.	122.5	(26.4)	(30.1)	31.7	40.5	21.8	21.7	13.2
35650	Industrial patterns, except shoe patterns	411.9	283.3	306.5	318.0	262.0	234.4	233.7	159.9
35660	Speed changers, drives, and gears	1,199.7	1,127.8	1,073.4	936.0	806.1	593.0	569.3	345.9
3567-	Industrial furnaces and ovens	707.1	584.9	532.0	514.8	450.0	341.1	415.9	237.7
35671	Electrical industrial furnaces and ovens	140.3	164.2	162.5	139.2	105.4	67.5	90.8	44.7
35672	Fuel-fired industrial furnaces and ovens	144.4	182.1	161.3	147.2	133.6	97.2	155.7	76.6
35674	Induction and dielectric heating equipment	133.4	233.6	199.3	210.7	180.2	147.0	149.1	109.9
35675	Industrial electrical heating equipment, n.e.c.	204.1							
35670	Industrial furnaces and ovens, n.s.k.	84.9	(5.0)	(8.9)	(17.7)	30.8	29.4	20.3	6.5
3568-	Power transmission equipment, n.e.c.	1,710.9	1,409.0	1,442.5	1,390.7	1,178.1	975.0	604.5	449.5
35681	Plain bearings and bushings	275.1	195.0	200.8	201.3	143.0	121.0		
35683	Power transmission equipment, n.e.c.	1,419.1	1,212.5	1,240.9	1,186.2	1,034.7	854.0	604.5	449.5
35680	Power transmission equipment, n.s.k.	16.6	1.5	(S)	3.2	.4	-		
3569-	General industrial machinery, n.e.c.	2,689.4	1,894.0	1,710.4	1,507.5	1,324.3	1,132.8	899.8	664.3
35691	Packing and packaging machinery, except for food	440.5	375.0	334.5	320.4	210.6	177.4		
35692	Industrial filters and strainers	630.0	574.7	559.4	439.8	349.9	275.4	899.8	664.3
35699	Other general industrial machinery	1,311.6	916.6	796.1	696.1	606.1	535.5		
35690	General industrial machinery, n.e.c., n.s.k.	307.3	(27.7)	(S)	(51.2)	157.7	144.5		

- Represents zero. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Data for 1972 and later are not strictly comparable to prior years.

[3]Prior to 1972 parts for air and gas compressors were included with parts for pumps.

[4]Prior to 1972 values for 35610 includes values for 35630.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3561, PUMPS AND PUMPING EQUIPMENT					
	Materials, parts, containers, and supplies		(X)	1,489.1	(X)	727.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons	*19.9	7.4	45.1	12.7
331011	Bars and bar shapes		(S)	22.2	15.9	3.5
331013	Plates		(S)	16.0	30.1	6.1
331015	Structural shapes		(S)	3.8	7.9	1.7
331019	All other carbon steel mill shapes and forms		**27.2	14.7	39.3	12.6
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*32.0	24.2	19.9	8.1
331029	All other alloy steel mill shapes and forms		10.9	6.8	3.6	2.2
	Stainless steel:					
331033	Sheet and strip		(S)	6.2	1.7	2.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons	**8.6	22.6	7.8	13.3
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content)	(S)	.8	4.4	3.2
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	*4.9	9.7	3.0	2.8
335143	Plate, sheet, and strip, including military cups and discs		.7	.9	.6	.5
335152	Pipe and tube		*1.8	3.3	3.4	3.9
	Aluminum and aluminum-base alloy:					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*3.2	1.3	1.0	.8
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	2.1	(S)	.3
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 s. tons	*17.7	3.9	(S)	7.7
333122	Copper and copper-base alloy refinery shapes	1,000 s. tons	(S)	4.6	2.6	2.5
339915	Metal powders	Million lb	(S)	1.1	(X)	(2)
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons	*43.4	4.0	18.7	.9
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**207.6	163.9	142.2	77.3
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		**21.8	118.2	20.4	49.9
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	**16.8	24.6	10.6	12.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	34.4	15.2	19.9
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	(S)	23.9	7.5	6.3
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands	*1.0	8.6	1.5	4.2
	Produced and consumed		(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor engines:					
	Purchased		(S)	10.5	72.3	6.9
	Produced and consumed		(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motor under 1 hp, excluding timing motors:					
	Purchased		(S)	68.0	2,126.6	39.6
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators, 1 hp and over:					
	Purchased		(S)	115.2	639.5	60.4
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	14.0	(X)	8.7
356201	Roller		(X)	13.0	(X)	6.4
356810	Plain bearings and bushings		(X)	6.0	(X)	315.0
356601	Speed changers, drives, and gears		(X)	10.2		
306902	Fabricated rubber products, except tires, tubes, belts, hosing, and gaskets		(X)	11.2	(X)	37.0
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons	(S)	.4	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	24.1	(X)	326.0
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products, fabricated steel plate, and weldments		(X)	9.6	(X)	314.0
349402	Fabricated metal pipe, valves, and pipe fittings		(X)	11.6	(X)	314.0
307902	Fabricated plastics products, except gaskets		(X)	15.6	(X)	38.0
356101	Pumps and pump parts used as materials	Thousands	(S)	49.8	(S)	330.0
356301	Air and gas compressors, except refrigeration	Thousands	(S)	(Z)		
360101	Electrical transmission, distribution, and control equipment		(X)	21.9	(X)	(2)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	15.3	(X)	38.0
354501	Cutting tools for machine tools		(X)	11.4	(X)	310.0
970099	All other materials and components, parts, containers, and supplies		(X)	308.3	(X)	290.2
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	243.8	(X)	127.9

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3562, BALL AND ROLLER BEARINGS					
	Materials, parts, containers, and supplies	.....	(X)	1,018.6	X)	551.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	52.5	42.4	88.0	29.8
331012	Sheet and strip		[5]119.4	[5]47.5	99.2	25.5
331017	Wire and wire products		24.3	14.6	3.0	.6
331013	Plates		([5])	([5])	(S)	9.6
331019	All other carbon steel mill shapes and forms		46.5	43.7		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		131.1	119.5	162.7	66.6
331029	All other alloy steel mill shapes and forms		201.1	192.9	212.4	106.0
	Stainless steel:					
331033	Sheet and strip		(S)	.3	4.7	4.8
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	2.1	5.7		
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	1.8	2.5	2.6	2.6
335143	Plate, sheet and strip, including military cups and discs		(D)	(D)		
335152	Pipe and tube	Million lb.....	(D)	(D)	.3	.3
333122	Copper and copper-base alloy refinery shapes	1,000 s. tons..	(D)	(D)	(D)	D)
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	.8	(D)	(D)
999812	Copper and copper-base alloy		-	-	-	-
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		29.7	25.3	19.4	9.8
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*1.7	3.0	5.7	4.9
	Produced and consumed	1,000 s. tons..	(S)	(X)	S)	X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(D)	(D)	D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		3.0	5.2	5.3	6.0
	Produced and consumed		(S)	(X)	S)	(X)
339915	Metal powders	Million lb.....	(D)	(D)	1.2	.6
	Iron and steel forgings:					
346201	Cold:					
	Purchased	1,000 s. tons..	**12.4	18.6		
	Produced and consumed		(S)	(X)		
346209	Other:				29.9	23.0
	Purchased		29.6	45.9		
	Produced and consumed	1,000 s. tons..	(S)	(X)		
	Bearings:					
356218	Ball	.....	(X)	15.3	X)	19.2
356201	Roller	.....	(X)	21.5	(X)	11.6
356295	Balls, rollers, cages, collars, races, and other antifriction bearing components and parts	.....	(X)	166.3	(X)	87.8
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....	(X)	11.7	(X)	[3]13.0
345001	Bolts, nuts, screws, rivets, and screw machines products	.....	(X)	2.6	(X)	[3]4.0
354401	Special dies, tools, die sets, jigs and fixtures, except cutting tools for machine tools	.....	(X)	7.3	X)	[3]22.0
354501	Cutting tools for machine tools	.....	(X)	5.7	(X)	82.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	187.4		
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	29.9	(X)	16.8
	INDUSTRY 3563, AIR AND GAS COMPRESSORS					
	Materials, parts, containers, and supplies	.....	(X)	858.8	(X)	347.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons..	**27.0	10.4	9.3	2.7
331011	Bars and bar shapes		(S)	6.8	12.7	3.7
331013	Plates		*27.3	11.7	18.8	3.7
331015	Structural shapes		*9.4	4.6	19.1	1.5
331019	All other carbon steel mill shapes and forms		(S)	4.6	.7	3.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		6.6	5.3	5.0	2.4
331029	All other alloy steel mill shapes and forms		*2.1	2.1	1.0	1.5
	Stainless steel:					
331033	Sheet and strip		.8	1.3	.5	.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	4.4	1.0	1.1
	Copper and copper-base alloy:					
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content).	*.3	1.3	.4	.4
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	3.2	1.3	1.0
335143	Plate, sheet, and strip, including military cups and discs				.1	.1
335152	Pipe and tube	Million lb.....	*1.1	1.4	1.1	1.4

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3563, AIR AND GAS COMPRESSORS--Con.					
	Mill shapes and forms, except castings--Con.					
	Aluminum and aluminum-base alloy:					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.	Million lb.	(S)	.9	.3	.3
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.	(S)	2.5	(S)	1.1
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 s. tons	(D)	(D)	(S)	.5
333122	Copper and copper-base alloy refinery shapes	1,000 s. tons	(D)	(D)	-	-
339915	Metal powders	Million lb.	(S)	.6	(X)	(2)
999811	Iron and steel scrap, excluding home scrap	1,000 s. tons	3.4	.5	14.6	.7
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*73.5	70.1	52.0	31.9
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	11.9	7.5	8.8
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	**10.1	15.5	3.7	4.7
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	3.4	2.5	2.9
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	*7.7	18.5	9.2	16.1
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands	*7.7	38.3	4.1	12.0
	Produced and consumed		(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor engines:					
	Purchased		(S)	15.8	27.7	13.3
	Produced and consumed		(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors, under 1 hp, excluding timing motors:					
	Purchased		823.4	27.4	215.7	5.1
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators, 1 hp and over:					
	Purchased	Thousands	(S)	48.5	214.6	21.9
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	5.0	(X)	2.4
356201	Roller		(X)	3.4	(X)	1.9
356810	Plain bearings and bushings		(X)	7.4	(X)	3 14.0
356601	Speed changers, drives, and gears		(X)	13.6		
306902	Fabricated rubber products, except tires, tubes, belts, hosing, and gaskets		(X)	1.1	(X)	3 6.0
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons	(D)	(D)	(S)	3 9.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	13.8	(X)	3 10.0
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products, fabricated steel plate and weldments		(X)	40.0	(X)	3 21.0
349402	Fabricated metal pipe, valves, and pipe fittings		(X)	9.0	(X)	3 29.0
307902	Fabricated plastics products, except gaskets		(X)	7.0	(X)	(2)
356101	Pumps and pump parts used as materials	Thousands	(S)	12.9	(S)	3 48.0
356301	Air and gas compressors, except refrigeration	Thousands	(S)	23.1		
360101	Electrical transmission, distribution, and control equipment		(X)	12.2	(X)	(2)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	2.1	(X)	3 5.0
354501	Cutting tools for machine tools		(X)	5.4	(X)	3 2.0
970099	All other materials and components, parts, containers, and supplies		(X)	287.9	(X)	2 43.5
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	102.1	(X)	13.1

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3564, BLOWERS AND FANS					
	Materials, parts, containers, and supplies	.....	(X)	515.1	(X)	285.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	7.8	25.7	5.8
331012	Sheet and strip		(S)	47.3	293.6	22.4
331013	Plates		**90.2	30.8	45.3	9.1
331015	Structural shapes		(S)	10.3	9.6	2.1
331017	Wire and wire products		(S)	2.5	(S)	1.4
331019	All other carbon steel mill shapes and forms		(S)	5.7	(S)	2.3
331020	Alloy steel, except stainless		(S)	4.5	(S)	2.4
	Stainless steel:					
331033	Sheet and strip		(S)	6.8	1.6	3.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	2.2	.9	1.4
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	1.0	11.4	11.3
335143	Plate, sheet, and strip		(S)	.2		
335152	Pipe and tube		(S)	1.3		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**11.7	9.8	(S)	7.1
335008	All other aluminum mill shapes and forms	Million lb.....	(S)	3.3	(S)	1.3
331051	Pig iron	1,000 s. tons..	-	-	(D)	(D)
999811	Iron and steel scrap, excluding home scrap		(D)	(2)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(S)	14.6	(S)	9.6
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	6.8	(S)	4.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	.1	(S)	.2
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors under 1 hp:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(S)	.7	(S)	.7
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors:					
	Purchased		**639.9	14.8	550.4	12.3
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators:					
	Purchased		(S)	23.1	(S)	
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	5.7	(X)	3.8
356201	Roller	.....	(X)	2.7	(X)	1.2
382201	Automatic temperature controls (thermostats, regulators, etc.)	.....	(X)	3.6	(X)	1.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	7.4	(X)	(2)
346901	Metal stampings	1,000 s. tons..	(S)	5.4	(X)	(2)
349402	Fabricated metal pipe, valves, and pipe fittings	.....	(X)	4.4	(X)	(2)
265001	Paperboard boxes and containers	1,000 s. tons..	(S)	5.6	(X)	(2)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	1,000 gal.....	(S)	3.3	(X)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	2151.2	(X)	2120.9
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	132.2	(X)	51.9
	INDUSTRY 3565, INDUSTRIAL PATTERNS					
	Materials, parts, containers, and supplies	.....	(X)	53.4	(X)	29.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	.7	.9	.6
331012	Sheet and strip		*1.0	1.1	(S)	.1
331013	Plates		(S)	.3	(S)	.3
331015	Structural shapes		(S)	.1		
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms		(S)	.3		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		**.2	.2	.4	.2
331029	All other alloy steel mill shapes and forms		(S)	.2		
	Stainless steel:					
331033	Sheet and strip		(S)	.1	(Z)	.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....				
335143	Plate, sheet, and strip, including military cups and discs		(S)	.1	(S)	(Z)
335152	Pipe and tube					

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3565, INDUSTRY PATTERNS--Con.					
	Mill shapes and forms, except casting--Con.					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb	(S)	.2	(S)	.2
335405	Extruded shapes, including rod, bar, pipe, tube, etc		(S)	.1	(S)	.1
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		*.5	.2	(S)	.4
335609	Nonferrous metal, except copper and aluminum	Million lb	(Z)	(Z)	(Z)	(Z)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	**3.0	4.1	2.3	2.1
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	1.3	.3	.3
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	2.1	1.9	1.8
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-based alloy:					
	Purchased		(Z)	(Z)	.2	.2
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	.1		
970099	All other materials and components, parts, containers, and supplies consumed		(X)	13.0	(X)	7.6
971000	Materials, parts, containers, supplies, n.s.k.[4]		(X)	29.2	(X)	15.1
	INDUSTRY 3566, SPEED CHANGERS, DRIVES, AND GEARS					
	Materials, parts, containers, and supplies		(X)	364.6	(X)	194.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	18.7	26.7	8.6
331012	Sheet and strip		(S)	.8	4.3	.9
331013	Plates		(S)	6.5	14.1	2.7
331017	Wire and wire products		(D)	(D)	.5	.1
331019	All other carbon steel mill shapes and forms		(S)	2.7	4.9	2.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	21.3	21.1	7.5
331029	All other alloy steel mill shapes and forms		(S)	1.3	13.5	6.3
	Stainless steel:					
331033	Sheet and strip		(S)	.5	.2	.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	2.1	.3	1.0
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	1.4	[6](S)	[6].7
335152	Pipe and tube		(S)	.4	.5	.5
335143	Plate, sheet, and strip, including military cups and discs	Million lb	(S)	.3	([6])	([6])
333122	Copper and copper-base alloy refinery shapes	1,000 s. tons	(D)	(D)	.3	.6
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	1.3	23.1	.8
999812	Copper and copper-base alloy		.2	.2	.1	(Z)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**48.4	47.2	33.5	16.7
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	10.6	4.0	4.4
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	5.0	1.6	1.7
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		*3.7	8.5	3.5	5.9
	Produced and consumed		(S)	(X)	(S)	(X)
339915	Metal powders	Million lb	(S)	.1	1.1	.8
	Iron and steel forgings:					
346201	Cold:					
	Purchased	1,000 s. tons	**28.5	29.6	[7]19.3	[7]11.3
	Produced and consumed		(S)	(X)		
346209	Other:					
	Purchased		(S)	25.6		
	Produced and consumed	1,000 s. tons	(S)	(X)		
	Bearings:					
356218	Ball		(X)	7.5	(X)	2.6
356201	Roller		(X)	14.0	(X)	6.2
356295	Balls, rollers, cages, collars, races, and other antifriction bearing componets, and parts		(X)	2.4	(X)	1.8
329101	Grinding wheels and other abrasive products, except industrial diamonds		(X)	3.1	(X)	[3](Z)
345001	Bolts, nuts, screws, rivets, and screw machines products		(X)	8.0	(X)	3.0
354401	Special dies, tools, die sets, jigs and fixtures, except cutting tools for machine tools		(X)	4.6	(X)	[3](Z)
354501	Cutting tools for machine tools		(X)	13.6	(X)	[3]2.0
970099	All other materials and components, parts, containers, and supplies		(X)	86.8	(X)	60.4
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	38.3	(X)	45.3

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3567, INDUSTRIAL FURNACES AND OVENS					
	Materials, parts, containers, and supplies		(X)	280.8	(X)	177.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons	(S)	9.6	(S)	6.4
331013	Plates		**22.5	8.7	24.9	5.5
331015	Structural shapes		(S)	6.5	14.9	3.6
331019	All other carbon steel mill shapes and forms		(S)	1.7	(S)	2.0
331020	Alloy steel, except stainless		(S)	4.8	(S)	9.2
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	*3.6	10.7	3.9	7.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	3.4	1.1	2.5
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	2.7	.7	.8
335143	Plate, sheet, and strip, including military cups and discs		(S)	.6	(S)	1.0
335152	Pipe and tube		(S)	3.1	(S)	1.7
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	1.0	2.9	1.2
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	.5	(S)	.6
332045	Steel castings (rough and semifinished):					
	Purchased	1,000 s. tons	(S)	2.4	(S)	3.1
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
360101	Electrical distribution, transmission, and control equipment		(X)	30.7	(X)	[3]9.0
970099	All other materials and components, parts, containers, and supplies		(X)	139.0	(X)	96.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	55.4	(X)	27.7
	INDUSTRY 3568, POWER TRANSMISSION EQUIPMENT, N.E.C.					
	Materials, parts, containers, and supplies		(X)	550.5	(X)	290.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	*70.0	32.1	73.5	18.4
331012	Sheet and strip		86.2	38.3	65.7	15.5
331013	Plates		**43.0	15.1	30.5	6.1
331017	Wire and wire products		10.1	4.5	11.3	2.4
331019	All other carbon steel mill shapes and forms		14.2	6.7	20.3	7.7
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	19.7	37.8	10.8
331029	All other alloy steel mill shapes and forms		6.5	4.8	9.7	4.1
	Stainless steel:					
331033	Sheet and strip		2.1	4.1	1.5	2.2
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	3.1	.7	1.1
335102	Copper and copper-base alloy: Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	3.1	3.6	(S)	[8]4.4
335152	Pipe and tube	Million lb	(S)	5.1	1.0	.6
335143	Plate, sheet, and strip, including military cups and discs				(S)	([8])
333122	Copper and copper-base alloy refinery shapes	1,000 s. tons	6.4	10.3	4.3	4.1
	Scrap, excluding home scrap:					
999811	Iron and steel		(S)	5.2	49.4	3.3
999812	Copper and copper-base alloy				3.0	1.5
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		77.5	66.4	78.0	31.8
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	6.8	2.9	2.6
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	X
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	*5.1	7.2	3.1	3.6
	Produced and consumed		(S)	(X)	(S)	X
336200	Copper and copper-base alloy:					
	Purchased		(S)	5.6	2.6	3.5
	Produced and consumed		(S)	(X)	S)	(X)
339915	Metal powders	Million lb	(S)	4.3	6.7	2.4
	Iron and steel forgings:					
346201	Cold:					
	Purchased	1,000 s. tons	**40.8	29.0	43.8	22.5
	Produced and consumed		(S)	X)		
346209	Other:					
	Purchased		22.0	23.0		
	Produced and consumed	1,000 s. tons	(S)	X)	(S)	X
	Bearings:					
356218	Ball		(X)	13.7	X)	5.6
356201	Roller		X)	10.3	X)	4.3
356295	Balls, rollers, cages, collars, races, and other antifriction bearing components, and parts		(X)	2.7	X)	2.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3568, POWER TRANSMISSION EQUIPMENT, N.E.C.--Con.					
329101	Grinding wheels and other abrasive products, except industrial diamonds	.....	(X)	1.5	(X)	[3]2.0
345001	Bolts, nuts, screws, rivets, and screw machines products	.....	(X)	8.6	(X)	[3]8.0
354401	Special dies, tools, die sets, jigs and fixtures, except cutting tools for machine tools	.....	(X)	4.3	(X)	[3]5.0
354501	Cutting tools for machine tools	.....	(X)	6.7	(X)	[3]9.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	149.9	(X)	95.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	57.8	(X)	10.0
	INDUSTRY 3569, GENERAL INDUSTRIAL MACHINERY, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	1,027.1	(X)	413.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	17.6	21.8	7.7
331012	Sheet and strip		**46.0	22.4	48.2	13.0
331013	Plates		(S)	16.2	33.0	8.6
331015	Structural shapes		(S)	10.1	(S)	4.1
331017	Wire and wire products		*7.5	3.7	(S)	1.1
331019	All other carbon steel mill shapes and forms		(S)	6.5	17.9	4.8
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	6.0	(S)	4.9
331029	All other alloy steel mill shapes and forms		*2.8	3.3	(S)	1.2
	Stainless steel:					
331033	Sheet and strip		(S)	14.9	(S)	4.9
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	16.9	(S)	5.5
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	4.2		
335143	Plate, sheet, and strip, including military cups and discs		2.9	.9	(S)	9.1
335152	Pipe and tube		(S)	1.9		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**6.9	6.9	(S)	2.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	7.0	2.6	2.2
	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	2.3	4.7	2.5
	Primary metals and scrap:					
331051	Pig iron, excluding silvery iron	1,000 s. tons..	(S)	.3	6.1	1.5
999811	Iron and steel scrap, excluding home scrap				(D)	.1
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**28.6	26.8	25.1	15.1
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	11.5	(S)	6.7
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	13.4	2.4	2.9
	Produced and consumed		(NA)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		**3.7	5.8	5.3	5.6
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors, under 1 hp, excluding timing motors:					
	Purchased	Thousands.....	(S)	12.6	(S)	5.6
	Produced and consumed		(S)	(X)	(S)	(X)
	Integral horsepower motors and generators, 1 hp and over:					
	Purchased		(S)	14.3	(S)	6.9
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	2.6	(X)	1.5
356201	Roller	.....	(X)	2.1	(X)	.7
356810	Plain bearings and bushings	.....	(X)	1.2	(X)	[3]24.0
356601	Speed changers, drives, and gears	.....	(X)	8.7		
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	10.4	(X)	[3]7.0
344301	Metal tanks, heat exchangers, steam condensers, and other boiler-shop products; fabricated steel plate weldments	.....	(X)	18.3	(X)	[3]7.0
349402	Fabricated metal pipe, valves, and pipe fittings	.....	(X)	21.8	(X)	[3]7.0
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	.....	(X)	2.1	(X)	[3]2.0
360101	Electrical transmission, distribution, and control equipment	.....	(X)	20.0	(X)	[3]11.0
346901	Metal stampings	.....	(X)	7.5	(X)	[3]11.0
356101	Pumps and pump parts	.....	(X)	9.6	(X)	[3]14.0
356301	Air and gas compressors, except refrigeration compressors	.....	(X)	6.8		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	372.1	(X)	122.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	318.4	(X)	89.5

Footnotes are on next page.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Data included with material code 970099.

[3]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1977, material codes 331012 and 331013 were combined to avoid disclosing operations of individual companies.

[6]For 1972, material codes 335143 and 335102 were combined to avoid disclosing operations of individual companies.

[7]Includes only quantities and values purchased.

[8]For 1972, material code 335143 was included with material code 335102.

Office, Computing, and Accounting Machines

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DESCRIPTION OF INDUSTRIES

OFFICE, COMPUTING, AND ACCOUNTING MACHINES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title	
3573	Electronic Computing Equipment
3574	Calculating and Accounting Machines
3576	Scales and Balances, Except Laboratory
3579, 3572	Office, Machines, N.E.C., and Typewriters

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments in the industry, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a–5a) with product statistics (table 6a showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

INDUSTRY 3573, ELECTRONIC COMPUTING EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of electronic computers and peripheral equipment and/or major logical components intended for use in electronic computer systems. Included are general-purpose electronic analog computers, electronic digital computers, military, ruggedized, and special-purpose computers. The electronic computers may be used for data processing or may be incorporated as components of control equipment for industrial use and as components of equipment used in weapons and weapons systems, space and oceanographic exploration, transportation, and other systems. Electronic computer systems contain high-speed arithmetic and program control units, on-line information storage devices, input/output equipment, terminals, data communication devices, and punched card equipment.

In addition to providing technical manuals necessary for the operation and maintenance of the equipment, establishments in this industry usually furnished general-purpose computer programs and basic operating systems programs needed for effective use of the computer system. Establishments primarily producing rebuilt electonic computers are also included in this industry. Establishments primarily engaged in the manufacture of desk calculators, cash registers, accounting machines, and similar equipment that are operator-paced are classified in industry 3574; electrical and electronic test equipment in industry 3825 (Instruments to Measure Electricity); industrial controls, including electronic, in industry 3622 (Industrial Controls); and industrial process instruments in industry 3823 (Process Control Instruments).

The total value of shipments for establishments specified in the Electronic Computing Equipment industry amounted to $12,922 million in 1977, an increase of 100 percent from 1972. The value of shipments of products classified as primary to the idustry was $12,673 million, an increase of 107 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were peripheral equipment for computers for which shipments increased 122 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $7,623 million in 1977, was 118 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 192.6 thousand employees, an increase of 33 percent from 1972. The leading States in employment were Massachusetts, New York, Minnesota, and California, accounting for 62 percent of the industry's 1977 employment. Data for some States have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of electronic computing equipment only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figues on the shipments of electronic computing equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35R, Office, Computing, and Accounting Machines. These data are also shown in table 6a.

Single-unit establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3574, CALCULATING AND ACCOUNTING MACHINES

This industry comprised establishments primarily engaged in the manufacture of desk calculators, adding and accounting machines, cash registers, and similar equipment. Included are electronic calculating and accounting machines which, even when augmented by attachments, or which include program control, or have input/output capabilities, must be paced by operator intervention. Establishments primarily engaged in the manufacture of electronic computing equipment are classified in industry 3573; typewriters, office duplicating machines and devices, autographic registers, and other office machines are classified in industry 3579.

The total value of shipments for establishments specified in the Calculating and Accounting Machines industry amounted to $850 million in 1977, an increase of 33 percent from 1972. The value of shipments of products classified as primary to the industry was $836 million, an increase of 20 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were electronic calculators for which shipments increased 64 percent, and mechanical calculators, accounting machines, and cash registers for which shipments decreased 9 percent. Value added by manufacture, at $395 million in 1977, was 3 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 17.1 thousand employees, a decrease of 24 percent from 1972. The leading States in employment were Michigan and Texas. Data for all States except California have been withheld to avoid disclosing operations of individual companies, however, employment size ranges are provided. This represents a shift from 1972 when Michigan and Ohio were the leading States.

The 1977 census obtained data on shipments of calculating and accounting machines only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of calculating and accounting machines are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35R, Office, Computing, and Accounting Machines. These data are also shown in table 6a.

Single-unit establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3576, SCALES AND BALANCES, EXCEPT LABORATORY

This industry comprises establishments primarily engaged in the manufacture of weighing and force measuring machines and devices of all types. Establishments primarily engaged in the manufacture of measuring machines and devices regarded as scientific apparatus for laboratory work are classified in industry 3811 (Engineering and Scientific Instruments).

The total value of shipments for establishments specified in the Scales and Balances, Except Laboratory industry amounted to $348 million in 1977, an increase of 74 percent from 1972. The value of shipments of products classified as primary to the industry was $329 million, an increase of 81 percent from 1972. (See the Introduction for a discussion of the differences between value of shipments for the industry and vlaue of product shipments.) Value added by manufacture, at $215 million in 1977, was 66 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.1 thousand employees, an increase of 6 percent from 1972. The leading States in employment were Ohio and Illinois. Data for all States except New York, Illinois, and California have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

Single-unit establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3579 AND 3572, OFFICE MACHINES, N.E.C. AND TYPEWRITERS

This industry comprises establishments primarily engaged in the manufacture of typewriters and parts, including coded media typewriters and specialized composing typewriters. This industry is combined with the Office Machines, N.E.C., industry which includes establishments primarily engaged in manufacturing office machines and devices, not elsewhere classified. For a detailed list of products of these industries, refer to table 6a, product codes 35793 11 to 35798 41. Establishments primarily engaged in the manufacture of computing machines are classified in industry 3573, cash registers in industry 3574, and photocopy and microfilm equipment in industry 3861 (Photographic Equipment and Supplies).

The classification of establishments for which data are tabulated in this report is based upon the definitions and coding structure contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President. The statistics for these industries are classified under the 1972 edition of the SIC manual were unchanged as to code number or content from the previous classification system. However, it was necessary to combine industry 3572, Typewriters, with industry 3579, Office Machines, N.E.C., to avoid disclosing the operations of individual companies.

The total value of shipments for establishments specified in the Office Machines, N.E.C., and Typewriters industry amounted to $2,720 million in 1977, an increase of 110 percent from 1972. The value of shipments of products classified as primary to the industry was $2,020 million, an increase of 93 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were typewriters, including coded media and typewriter-principle machines for which shipments increased 179 percent. Value added by manufacture, at $1,691 million in 1977, was 94 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 42.4 thousand employees, an increase of 23 percent from 1972. The leading States in employment were Connecticut, New York, Illinois, Kentucky, Texas, and California. Data for most States have been withheld to avoid disclosing operations of individual companies; however, establishment counts and employment size ranges are provided. This represents a shift from 1972 when Ohio, Illinois, New York, and Kentucky were the leading States.

The 1977 census obtained data on shipments of office machines, n.e.c., and typewriters only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of office machines, n.e.c., and typewriters are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35R Office, Computing, and Accounting Machines. Some of these data are also shown in table 6a.

Single-unit establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3573, ELECTRONIC COMPUTING EQUIPMENT[3]																
1977 Census..	802	931	434	192.6	3,003.9	85.5	172.3	978.1	7,622.5	5,700.5	12,921.8	651.4	(NA)	3,007.7	94	91
1976 ASM.....	(NA)	(NA)	(NA)	165.7	2,451.3	71.3	144.0	707.0	6,108.1	4,379.9	10,387.6	373.1	2,352.9	2,293.8	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	162.5	2,292.1	73.8	145.9	731.1	4,690.0	3,705.0	8,559.5	292.3	2,231.9	2,264.4	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	176.7	2,222.2	86.8	173.0	795.1	5,205.0	4,164.2	9,121.5	296.0	2,085.4	2,477.9	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	155.3	1,872.8	74.9	151.4	659.5	4,238.1	3,480.5	7,422.7	207.3	1,857.0	2,004.7	(NA)	(NA)
1972 Census..	518	601	354	144.8	1,668.3	64.7	130.6	546.8	3,497.6	2,980.7	6,471.2	212.8	1,896.1	1,574.1	92	91
1971 ASM.....	(NA)	(NA)	(NA)	153.2	1,498.3	72.3	142.2	540.7	3,155.8	2,631.2	5,700.1	294.5	1,853.6	1,666.8	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	145.7	1,432.3	67.0	133.0	499.2	2,816.9	2,520.3	5,232.4	296.2	1,634.6	1,603.8	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	139.9	1,324.1	69.8	144.1	503.4	2,729.6	2,609.3	5,112.2	269.2	1,083.9	1,469.2	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	108.7	981.2	55.4	117.3	378.5	2,241.1	1,992.6	4,163.4	122.5	799.3	1,080.4	(NA)	(NA)
1967 Census..	134	178	140	98.9	803.5	50.7	104.2	314.5	1,926.4	1,875.6	3,770.9	117.1	696.5	985.6	96	97
INDUSTRY 3574, CALCULATING AND ACCOUNTING MACHINES[3]																
1977 Census..	60	64	31	17.1	220.7	10.4	18.1	92.9	394.8	450.5	850.0	56.3	(NA)	218.2	84	77
1976 ASM.....	(NA)	(NA)	(NA)	19.7	243.1	10.7	21.9	107.4	409.7	491.5	960.8	31.6	286.1	280.1	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	20.1	222.6	12.2	24.2	112.4	368.8	424.8	853.8	28.7	260.0	264.2	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	24.7	257.6	16.5	32.2	154.6	460.0	491.1	891.0	28.8	251.6	348.9	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	23.1	222.9	16.8	33.1	147.2	469.0	352.0	802.4	24.6	228.8	266.4	(NA)	(NA)
1972 Census..	74	79	30	22.5	207.2	17.9	33.4	152.5	407.0	256.7	637.1	19.0	205.0	216.7	97	86
1971 ASM.....	(NA)	(NA)	(NA)	23.1	194.9	17.9	33.6	134.9	343.8	175.9	529.5	17.5	235.9	199.2	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	28.5	234.9	23.7	44.4	182.2	408.0	183.5	588.6	22.1	217.8	206.6	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	35.4	261.5	29.5	55.6	203.4	680.8	255.7	893.0	28.2	241.5	274.7	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	37.0	265.5	30.4	54.1	202.4	559.6	226.8	772.7	29.7	282.3	275.3	(NA)	(NA)
1967 Census..	132	138	51	38.4	294.4	31.3	58.6	219.8	518.2	198.2	707.8	32.6	294.6	206.8	85	84
INDUSTRY 3576, SCALES AND BALANCES, EXCEPT LABORATORY																
1977 Census..	92	103	46	7.1	84.5	4.7	9.1	46.9	214.9	138.8	348.1	6.8	(NA)	85.7	96	99
1976 ASM.....	(NA)	(NA)	(NA)	7.4	87.0	4.7	9.2	44.5	243.1	128.1	368.3	5.6	72.2	80.6	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	7.2	77.5	4.4	8.6	41.6	203.4	121.8	323.3	9.5	68.5	73.8	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	7.3	74.3	4.7	9.6	43.9	185.8	108.4	292.0	6.7	54.1	67.9	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	6.8	66.0	4.3	9.2	37.9	168.2	88.6	246.8	4.7	51.3	57.4	(NA)	(NA)
1972 Census..	86	96	43	6.7	59.3	4.1	8.6	32.5	129.7	74.3	200.4	5.7	48.0	47.5	92	95
1971 ASM.....	(NA)	(NA)	(NA)	5.6	45.8	3.6	7.6	26.2	88.7	53.1	146.1	5.1	41.2	38.6	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	6.6	51.0	4.1	8.4	28.2	102.7	57.5	157.3	4.4	38.4	42.6	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	7.2	59.7	4.8	9.5	31.8	117.3	70.6	180.0	3.1	33.6	47.4	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	6.3	44.7	4.2	7.7	23.3	87.5	51.6	139.3	2.5	30.5	34.2	(NA)	(NA)
1967 Census..	69	76	34	6.5	45.6	4.3	8.5	24.0	90.0	51.3	140.2	5.1	32.9	36.1	93	96
1966 ASM.....	(NA)	(NA)	(NA)	6.7	44.9	4.5	9.4	25.5	86.9	49.2	130.7	3.0	(NA)	36.8	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	6.5	40.6	4.2	8.6	23.0	73.0	44.2	114.7	2.0	(NA)	28.4	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	5.8	36.1	3.8	7.8	20.6	62.8	36.8	100.8	1.7	25.4	22.3	(NA)	(NA)
1963 Census..	81	85	35	5.8	35.1	3.7	7.7	19.9	64.4	35.3	98.5	1.1	23.4	24.0	92	97
INDUSTRIES 3579, OFFICE MACHINES, N.E.C., AND 3572, TYPEWRITERS																
1977 Census..	195	215	98	42.4	638.8	22.9	43.7	266.0	1,691.3	1,077.1	2,719.7	111.5	(NA)	575.3	76	91
1976 ASM.....	(NA)	(NA)	(NA)	36.7	495.6	20.4	36.9	211.6	1,340.7	664.6	2,006.3	70.1	628.9	433.2	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	35.4	440.5	19.5	35.1	186.1	1,179.2	609.2	1,791.4	59.0	560.2	432.6	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	38.1	448.0	22.5	42.9	201.4	1,290.3	650.1	1,874.3	46.4	517.9	430.4	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	35.7	394.5	21.7	42.9	186.9	1,058.1	549.6	1,582.0	45.1	588.2	318.3	(NA)	(NA)
1972 Census..	206	217	97	34.5	342.5	20.8	41.1	168.8	870.1	414.6	1,296.2	49.6	466.4	245.4	79	87
1971 ASM.....	(NA)	(NA)	(NA)	36.4	322.5	22.4	42.2	159.4	886.0	381.0	1,282.5	41.2	442.9	299.9	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	40.9	347.7	26.3	51.3	187.9	855.4	416.8	1,247.1	34.9	415.7	320.9	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	42.2	342.6	28.4	56.2	193.6	838.1	394.2	1,234.4	41.2	405.7	295.5	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	43.9	319.2	30.1	59.5	189.0	754.3	385.6	1,141.7	43.3	385.3	270.2	(NA)	(NA)
1967 Census..	190	202	94	46.7	318.7	33.4	65.9	198.7	797.2	347.7	1,121.1	37.9	353.8	251.9	87	89
1966 ASM.....	(NA)	(NA)	(NA)	41.0	276.0	30.4	61.3	174.6	735.1	310.7	1,000.3	33.2	(NA)	207.5	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	36.8	232.7	26.5	51.5	141.5	546.2	248.6	794.9	22.5	(NA)	155.7	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	34.5	216.8	25.0	49.6	134.7	530.3	220.8	747.5	19.2	294.6	152.1	(NA)	(NA)
1963 Census..	175	182	91	35.0	207.0	25.5	50.1	134.4	467.9	206.3	664.6	25.9	279.8	155.0	(NA)	(NA)

- Represents zero. (NA) Not available. N.E.C. Not elsewhere classified.

[1] In Annual Survey of Manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1971, see 1972 Census of Manufactures, vol. II, table 1 of the industry chapter.

[2] For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3] Industry was defined after 1967 Census of Manufactures, so data are available only for years shown.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3573, ELECTRONIC COMPUTING EQUIPMENT										
1977 Census..	15,592	(NA)	44	2,015	5.67	44	67	(NA)	39,566	39	44.23
1976 ASM.....	14,793	14,199	43	2,019	4.90	42	65	22	36,862	40	42.41
1975 ASM.....	14,105	13,734	45	1,976	5.01	43	70	26	28,861	48	32.14
1974 ASM.....	12,576	11,801	49	1,993	4.59	45	70	22	29,456	42	30.08
1973 ASM.....	12,059	11,957	48	2,021	4.35	46	72	25	27,289	44	27.99
1972 Census..	11,521	13,094	44	2,018	4.18	46	71	29	24,154	47	26.78
1971 ASM.....	10,628	12,090	44	1,969	4.12	45	73	37	20,354	52	23.48
1970 ASM.....	9,830	10,670	46	1,985	3.75	48	76	29	19,334	51	21.18
1969 ASM.....	9,465	7,740	50	2,064	3.49	51	77	21	19,511	48	18.94
1968 ASM.....	9,027	7,350	51	2,117	3.23	48	71	19	20,617	44	19.11
1967 Census..	8,124	7,040	51	2,057	3.02	50	71	18	19,478	42	18.49
	INDUSTRY 3574, CALCULATING AND ACCOUNTING MACHINES										
1977 Census..	12,887	(NA)	61	1,730	5.13	53	78	(NA)	23,052	55	21.83
1976 ASM.....	12,340	14,522	54	2,046	4.90	51	76	29	20,796	59	18.70
1975 ASM.....	11,074	12,935	60	1,983	4.64	49	75	30	18,348	60	15.23
1974 ASM.....	10,429	10,186	66	1,951	4.80	55	84	28	18,623	56	14.28
1973 ASM.....	9,649	9,904	72	1,970	4.44	43	71	28	20,303	47	14.16
1972 Census..	9,208	9,111	79	1,865	4.56	40	72	32	18,088	50	12.18
1971 ASM.....	8,437	10,210	78	1,877	4.02	33	70	45	14,749	57	10.14
1970 ASM.....	8,130	7,640	81	1,855	4.09	29	58	37	19,015	43	12.64
1969 ASM.....	7,387	6,820	83	1,885	3.66	29	58	27	19,232	38	12.25
1968 ASM.....	7,176	7,960	82	1,780	3.74	29	64	37	15,124	47	10.34
1967 Census..	7,673	7,670	81	1,874	3.75	28	70	42	13,508	57	8.85
	INDUSTRY 3576, SCALES AND BALANCES, EXCEPT LABORATORY										
1977 Census..	11,933	(NA)	65	1,962	5.14	39	64	(NA)	30,329	39	23.54
1976 ASM.....	11,756	9,756	63	1,957	4.83	34	58	19	32,851	35	26.42
1975 ASM.....	10,763	9,513	61	1,954	4.83	37	61	21	28,250	38	23.65
1974 ASM.....	10,178	7,410	64	2,042	4.57	37	62	18	25,452	39	19.35
1973 ASM.....	9,705	7,544	63	2,139	4.11	35	62	20	24,735	39	18.28
1972 Census..	8,850	7,164	61	2,097	3.77	37	66	23	19,358	45	15.08
1971 ASM.....	8,178	7,357	64	2,111	3.44	36	67	28	15,839	51	11.67
1970 ASM.....	7,727	5,818	62	2,048	3.35	36	68	24	15,560	49	12.22
1969 ASM.....	8,291	4,666	66	1,979	3.34	39	72	18	16,291	50	12.34
1968 ASM.....	7,095	4,841	66	1,833	3.02	37	69	21	13,888	51	11.36
1967 Census..	7,015	5,061	66	1,976	2.82	36	69	23	13,846	50	10.58
1966 ASM.....	6,701	(NA)	67	2,088	2.71	37	71	(NA)	12,970	51	9.24
1965 ASM.....	6,246	(NA)	64	2,047	2.67	38	73	(NA)	11,230	55	8.48
1964 ASM.....	6,224	4,379	65	2,052	2.64	36	72	25	10,827	57	8.05
1963 Census..	6,051	4,034	63	2,081	2.58	35	71	23	11,103	54	8.36
	INDUSTRIES 3579, OFFICE MACHINES, N.E.C., AND 3572, TYPEWRITERS										
1977 Census..	15,065	(NA)	53	1,912	6.08	39	63	(NA)	39,889	37	38.66
1976 ASM.....	13,504	17,136	55	1,808	5.73	33	57	31	36,531	36	36.33
1975 ASM.....	12,443	15,824	55	1,800	5.30	34	58	31	33,310	37	33.59
1974 ASM.....	11,758	13,593	59	1,906	4.69	34	58	27	33,866	34	30.07
1973 ASM.....	11,050	16,476	60	1,976	4.35	34	59	37	29,638	37	24.66
1972 Census..	9,927	13,518	60	1,975	4.10	31	58	35	25,220	39	21.17
1971 ASM.....	8,860	12,168	62	1,884	3.78	30	55	35	24,341	36	21.00
1970 ASM.....	8,501	10,164	64	1,951	3.66	33	61	33	20,914	41	16.67
1969 ASM.....	8,118	9,614	67	1,979	3.44	32	60	33	19,860	41	14.91
1968 ASM.....	7,271	8,777	69	1,977	3.18	34	62	34	17,182	42	12.68
1967 Census..	6,824	7,576	72	1,973	3.02	31	59	32	17,071	40	12.10
1966 ASM.....	6,732	(NA)	74	2,016	2.85	31	59	(NA)	17,929	38	11.99
1965 ASM.....	6,323	(NA)	72	1,943	2.75	31	61	(NA)	14,842	43	10.61
1964 ASM.....	6,284	8,539	72	1,984	2.72	30	58	39	15,371	41	10.69
1963 Census..	5,914	7,994	73	1,965	2.68	31	62	42	13,369	44	9.34

Note: For qualifications to data, see footnotes on table 1a.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3573, ELECTRONIC COMPUTING EQUIPMENT														
United States	-	**931**	**434**	**192.6**	**3 003.9**	**85.5**	**172.3**	**978.1**	**7 622.5**	**5 700.5**	**12 921.8**	**651.4**	**144.8**	**3 497.6**
New England Division:														
Maine	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Hampshire	-	10	4	2.1	26.4	0.6	1.2	4.8	41.2	63.4	106.6	(D)	(NA)	(D)
Massachusetts	-	73	43	22.0	295.7	11.8	24.8	129.4	1 280.2	480.6	1 675.8	85.5	15.2	581.6
Rhode Island	-	5	3	0.4	6.3	0.2	0.5	2.7	10.6	7.8	18.3	(D)	(NA)	(NA)
Connecticut	-	23	11	2.8	43.9	1.0	1.9	9.4	92.0	39.3	132.9	3.3	(NA)	(D)
Middle Atlantic Division:														
New York	-	65	34	16.7	302.8	7.5	14.5	82.9	582.0	851.6	1 407.5	68.3	19.3	371.1
New Jersey	-	44	23	5.6	70.7	3.3	6.3	31.6	145.6	126.0	264.9	11.9	4.7	125.3
Pennsylvania	-	35	18	5.7	82.9	2.0	3.9	22.6	154.4	97.1	238.5	11.0	3.0	56.7
East North Central Division:														
Ohio	-	12	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	19	4	0.6	7.4	0.3	0.5	2.7	14.8	12.6	28.4	0.6	(NA)	(D)
Michigan	-	21	9	3.4	55.1	1.3	2.3	16.9	72.0	70.4	141.1	(D)	(NA)	(D)
Wisconsin	-	9	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	43	23	23.1	382.4	9.3	19.4	121.0	833.1	575.6	1 355.5	45.6	(NA)	(D)
Iowa	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	9	4	0.5	5.6	0.3	0.5	2.3	11.7	4.6	16.3	(D)	(NA)	(D)
South Dakota	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	6	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland	E1	27	10	1.1	16.0	0.4	0.8	5.3	40.1	20.4	59.3	3.2	(NA)	(D)
Virginia	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	13	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	35	17	6.7	121.6	2.8	5.8	34.2	200.5	151.1	340.2	14.1	(NA)	(D)
East South Central Division:														
Kentucky	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	E1	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	5	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	41	14	6.5	96.0	2.5	4.9	28.4	240.7	111.8	346.3	(D)	(NA)	(D)
Mountain Division:														
Idaho	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Colorado	-	22	9	3.0	49.2	1.7	3.1	14.2	141.2	88.4	210.3	(D)	(NA)	(D)
Arizona	-	19	9	7.6	122.5	3.5	6.9	37.5	591.1	109.7	695.9	22.9	(NA)	(D)
Utah	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	14	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	-	7	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	314	154	58.5	950.9	25.0	50.6	309.7	2 160.1	1 827.8	3 924.6	211.3	41.0	888.3
INDUSTRY 3574, CALCULATING AND ACCOUNTING MACHINES														
United States	-	**54**	**31**	**17.1**	**220.7**	**10.4**	**18.1**	**92.9**	**394.8**	**450.5**	**850.0**	**56.3**	**22.5**	**407.0**
New England Division:														
Massachusetts	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
Pennsylvania	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
South Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	16	7	1.6	19.1	1.0	1.5	8.1	33.6	35.8	71.2	1 4	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3576, SCALES AND BALANCES, EXCEPT LABORATORY														
United States	-	**103**	**46**	**7.1**	**84.5**	**4.7**	**9.1**	**46.9**	**214.9**	**138.8**	**348.1**	**6.8**	**6.7**	**129.7**
New England Division:														
Vermont	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	7	4	0.8	8.1	0.6	0.9	3.3	13.7	13.2	27.8	0.4	(NA)	(D)
New Jersey	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	11	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	12	9	1.2	13.7	0.8	1.5	7.3	28.4	19.5	46.3	1.0	(NA)	(D)
West North Central Division:														
Minnesota	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
South Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Mississippi	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	22	9	0.7	10.3	0.5	1.0	5.6	25.9	11.5	34.1	1.6	(NA)	(D)
INDUSTRIES 3579, OFFICE MACHINES, N.E.C. AND 3572, TYPEWRITERS														
United States	-	**215**	**98**	**42.4**	**638.8**	**22.9**	**43.7**	**266.0**	**1 691.3**	**1 077.1**	**2 719.7**	**111.5**	**34.5**	**870.1**
New England Division:														
New Hampshire	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	10	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	9	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.2	103.1
Middle Atlantic Division:														
New York	-	25	10	5.9	62.5	4.6	9.1	43.5	161.3	63.6	225.3	6.5	(NA)	(D)
New Jersey	-	19	7	1.9	27.3	1.0	2.0	12.1	46.5	34.3	80.5	(D)	1.6	31.8
Pennsylvania	-	6	5	1.0	14.3	0.6	1.1	6.6	26.4	15.1	41.3	0.7	(NA)	(D)
East North Central Division:														
Ohio	-	12	10	2.2	27.7	1.7	3.1	18.2	49.5	27.9	80.4	1.3	(NA)	(D)
Illinois	-	27	15	7.2	105.5	3.2	6.0	39.6	264.3	200.5	470.2	8.2	4.5	96.3
Michigan	-	9	2	0.2	2.7	0.1	0.2	1.1	6.2	2.8	9.0	0.3	(NA)	(D)
Wisconsin	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Minnesota	-	9	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	E1	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	6	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	30	14	2.6	29.6	1.6	3.0	14.3	83.9	59.7	142.5	4.4	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Electronic computing equipment (SIC 3573)	Calculating and accounting machines (SIC 3574)	Scales and balances, except laboratory (SIC 3576)	Typewriters; and office machines, n.e.c. (SIC 3572 and 3579)
Primary product specialization ratio[1]	percent	94	84	96	96
Coverage ratio[2]	do	91	77	99	93
All establishments	number	931	64	103	215
With 1 to 19 employees	do	497	33	57	117
With 20 to 99 employees	do	186	10	25	43
With 100 employees or more	do	248	21	21	55
All employees, average for year	1,000	192.6	17.1	7.1	42.4
Payroll for year, all employees	mil. dol.	3 003.9	220.7	84.5	638.8
Production workers:					
Average for year	1,000	85.5	10.4	4.7	22.9
March	do	81.0	9.0	4.6	22.8
May	do	83.0	10.3	4.6	22.9
August	do	86.5	11.2	4.6	22.9
November	do	91.4	11.2	4.8	22.9
Hours	millions	172.3	18.1	9.1	43.7
January to March	do	41.1	4.0	2.3	11.1
April to June	do	42.1	4.5	2.3	11.3
July to September	do	43.3	4.7	2.2	10.2
October to December	do	45.9	4.9	2.4	11.2
Wages	mil. dol.	978.1	92.9	46.9	266.0
Cost of materials, etc.	do	5 700.5	450.5	138.8	1 077.1
Materials, parts, containers, etc., consumed	do	5 240.6	401.3	126.7	892.8
Resales	do	220.5	39.4	5.2	127.7
Fuels consumed	do	11.7	1.6	1.1	6.9
Purchased electric energy	do	65.3	4.8	2.0	13.7
Contract work	do	162.4	3.5	3.9	36.1
Value of shipments, including resales	do	12 921.8	850.0	348.1	2 719.7
Value of resales	do	260.3	61.3	7.6	242.3
Value added by manufacture	do	7 622.5	394.8	214.9	1 691.3
Manufacturers' inventories:					
Beginning of year	do	2 525.9	215.5	79.6	504.2
Finished products	do	466.8	28.9	15.0	109.9
Work in process	do	1 315.8	131.7	44.3	298.0
Materials, supplies, fuel, etc.	do	743.3	54.9	20.3	96.2
End of year	do	3 007.7	218.2	85.7	575.3
Finished products	do	537.4	31.2	17.4	108.1
Work in process	do	1 646.3	124.7	47.5	348.5
Materials, supplies, fuel, etc.	do	824.1	62.3	20.8	118.6
Capital expenditures for plant and equipment	do	716.9	56.6	7.0	122.9
New capital expenditures	do	651.4	56.3	6.8	111.5
New buildings and other structures	do	107.3	26.2	1.5	31.1
New machinery and equipment	do	544.1	30.2	5.4	80.4
Used capital expenditures	do	65.5	0.2	0.2	11.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Electronic computing equipment (SIC 3573)		Calculating and accounting machines (SIC 3574)		Scales and balances, except laboratory (SIC 3576)		Typewriters; and office machines, (SIC 3572/3579)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	25.2	3	0.5	4	(0.6)	85	4.2	4
Response coverage ratio[2] (percent)	70	(X)	81	(X)	66	(X)	73	(X)
Machinery	24.0	6	0.4	5	(1.1)	16	6.3	2
Response coverage ratio[2] (percent)	61	(X)	81	(X)	72	(X)	75	(X)
Cost of purchased communication services	71.3	8	3.0	14	(1.5)	38	11.4	4
Response coverage ratio[2] (percent)	65	(X)	84	(X)	67	(X)	80	(X)
Rental payments	112.4	4	3.8	6	2.5	13	19.7	5
Buildings and other structures	68.5	5	1.8	14	1.7	9	10.9	5
Machinery and equipment	43.9	5	2.0	2	(0.8)	23	8.8	5
Supplemental labor costs	527.5	1	38.5	1	16.0	2	125.4	1
Legal costs	205.1	1	15.2	1	6.8	2	42.7	1
Voluntary costs	322.4	1	23.3	1	9.2	2	82.7	1
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	657.6	2	96.3	2	27.1	7	202.6	4
New capital expenditures	112.4	4	26.0	1	(1.3)	15	32.0	4
Used capital expenditures	53.2	4	-	(X)	-	(X)	5.1	1
Retirements	18.4	7	10.9	1	(0.1)	37	5.0	5
End of year	804.8	2	111.4	1	28.3	6	234.7	3
Machinery and equipment:								
Beginning of year	1,892.9	1	157.9	1	48.6	4	480.1	4
New capital expenditures	499.8	2	29.0	1	5.5	9	89.3	6
Automobiles, trucks, etc., for highway use[3]	(1.2)	(A)	(0.1)	(A)	(0.2)	(A)	(1.1)	(A)
Computers and peripheral data processing equipment[3] [4]	155.4	2	(1.9)	(A)	(0.4)	(A)	(10.9)	(A)
All other[3]	299.2	8	(25.1)	80	(4.2)	(A)	(70.3)	28
New machinery and equipment, n.s.k.[5]	(44.1)	45	(1.9)	(A)	(0.7)	(A)	(7.1)	(A)
Used capital expenditures	(14.5)	(A)	0.2	1	0.2	1	23.0	1
Retirements	170.0	2	22.2	1	4.5	3	18.2	11
End of year	2,237.2	1	164.9	1	49.7	4	574.1	4
Total gross value of depreciable assets:								
Beginning of year	2,550.5	1	254.2	1	75.7	4	682.7	1
New capital expenditures	612.2	2	55.0	1	6.7	8	121.3	4
Used capital expenditures	(67.7)	24	0.2	1	0.2	1	28.1	1
Retirements	188.4	2	33.0	1	4.6	4	23.2	10
End of year	3,042.0	1	276.3	1	78.0	4	808.8	1
Depreciation charges during 1977	276.0	3	23.4	1	5.3	5	60.5	3
Buildings and other structures	33.1	2	3.7	2	1.0	7	7.0	3
Machinery and equipment	242.9	3	19.7	1	4.3	5	53.4	3

Note: Data for total new captal expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

[5]For industries 3573 and 3572/3579 most of the value reported is for machines produced then leased out. The value of these leased machines is included in the assets and expenditures of the producing plants.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3573, ELECTRONIC COMPUTING EQUIPMENT												
Total	-	**931**	**192.6**	**3 003.9**	**85.5**	**172.3**	**978.1**	**7 622.5**	**5 700.5**	**12 921.8**	**651.5**	**3 007.7**
Establishments with an average of—												
1 to 4 employees	E8	293	0.4	6.2	0.2	0.4	2.0	9.3	10.5	23.1	1.0	5.3
5 to 9 employees	E7	99	0.7	9.3	0.3	0.6	3.3	21.6	15.4	36.8	1.4	8.1
10 to 19 employees	E6	103	1.4	20.4	0.7	1.3	6.5	40.6	33.8	74.0	2.5	16.1
20 to 49 employees	E1	97	3.3	44.8	1.6	3.1	17.0	93.8	62.2	153.1	5.4	35.3
50 to 99 employees	-	90	6.6	93.0	3.8	7.1	41.8	192.1	148.1	334.0	10.3	79.0
100 to 249 employees	-	100	15.6	210.7	8.0	16.2	78.5	517.1	352.7	841.2	42.0	205.6
250 to 499 employees	-	52	18.5	258.2	9.5	19.0	91.0	654.7	513.9	1 124.3	41.0	305.2
500 to 999 employees	-	49	33.6	492.3	15.3	30.1	173.1	1 093.8	827.1	1 877.7	99.7	493.1
1,000 to 2,499 employees	-	36	55.4	830.7	26.8	55.2	299.5	2 619.5	1 391.8	3 864.5	209.2	959.4
2,500 employees or more	-	12	57.2	1 038.3	19.3	39.2	265.3	2 379.8	2 344.8	4 593.1	239.0	900.7
Covered by administrative records[2]	E0	375	2.1	30.6	1.0	2.0	9.7	62.8	50.7	113.4	3.7	26.1
INDUSTRY 3574, CALCULATING AND ACCOUNTING MACHINES												
Total	-	**64**	**17.1**	**220.7**	**10.4**	**18.1**	**92.9**	**394.8**	**450.5**	**850.0**	**56.5**	**218.2**
Establishments with an average of—												
1 to 4 employees	E9	22	(Z)	0.4	(Z)	(Z)	0.1	0.7	0.7	1.4	(Z)	0.3
5 to 9 employees	E4	9	0.1	0.7	(Z)	0.1	0.4	1.2	1.0	2.2	(0.2)	0.5
10 to 19 employees	E6	2	(0.1)	(0.8)	(Z)	(0.1)	(0.3)	(1.6)	(1.5)	(0.2)	(D)	(0.8)
20 to 49 employees	E4	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	-	8	0.5	6.2	0.4	0.7	3.1	8.5	10.0	20.5	0.8	4.2
100 to 249 employees	-	6	1.0	8.4	0.6	0.9	4.4	14.3	23.1	36.4	2.5	19.0
250 to 499 employees	-	5	1.6	19.9	1.0	2.1	8.7	37.1	66.2	52.8	53.0	28.8
500 to 999 employees	-	7	(13.8)	(184.3)	(8.4)	(14.2)	(76.0)	(331.3)	(348.0)	(682.3)	(D)	(164.6)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	26	0.1	1.2	0.1	0.1	0.5	2.2	2.0	4.2	0.1	1.0
INDUSTRY 3576, SCALES AND BALANCES, EXCEPT LABORATORY												
Total	-	**103**	**7.1**	**84.5**	**4.7**	**9.1**	**46.9**	**214.9**	**138.8**	**348.1**	**6.8**	**85.7**
Establishments with an average of—												
1 to 4 employees	E8	29	(Z)	0.5	(Z)	0.1	0.3	1.6	0.8	2.5	(Z)	0.5
5 to 9 employees	E6	12	0.1	0.9	(Z)	0.1	0.5	2.7	1.4	4.1	0.1	0.9
10 to 19 employees	E4	16	0.2	2.7	0.1	0.3	1.5	9.5	6.1	15.5	0.4	2.6
20 to 49 employees	-	14	0.5	6.8	0.3	0.6	3.5	14.5	9.5	23.7	0.6	4.6
50 to 99 employees	-	11	0.7	9.8	0.5	0.9	4.8	20.8	14.6	33.3	0.6	7.7
100 to 249 employees	-	16	(3.8)	(42.0)	(2.5)	(4.9)	(22.5)	(101.1)	(75.8)	(174.3)	(4.4)	(41.3)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	3	1.7	21.9	1.1	2.3	13.9	64.7	30.6	94.7	0.7	28.0
Covered by administrative records[2]	E0	41	0.2	2.9	0.2	0.3	1.5	7.5	4.0	11.5	0.2	2.5
INDUSTRIES 3579, OFFICE MACHINES, N.E.C. AND 3572, TYPEWRITERS												
Total	-	**215**	**42.4**	**638.8**	**22.9**	**43.7**	**266.0**	**1 691.3**	**1 077.1**	**2 719.7**	**111.3**	**575.3**
Establishments with an average of—												
1 to 4 employees	E9	76	0.1	1.4	0.1	0.1	0.6	(S)	1.7	5.2	0.2	1.1
5 to 9 employees	E8	21	0.1	2.0	0.1	0.1	0.8	4.9	2.5	7.4	0.3	1.6
10 to 19 employees	E6	20	0.3	3.6	0.2	0.3	1.6	7.5	4.2	11.8	0.4	2.2
20 to 49 employees	E1	21	0.7	9.7	0.4	0.7	4.3	27.0	14.8	41.5	1.7	10.5
50 to 99 employees	-	22	1.7	20.1	1.1	2.2	9.8	45.7	36.3	80.2	2.3	19.0
100 to 249 employees	-	17	2.5	31.5	1.6	3.0	17.0	92.8	64.4	157.0	3.7	38.6
250 to 499 employees	-	18	6.3	76.6	3.9	7.8	41.2	181.8	113.3	295.1	7.8	81.4
500 to 999 employees	-	10	6.3	82.7	4.0	7.4	43.2	169.3	83.6	252.6	14.5	73.1
1,000 to 2,499 employees	-	6	(24.4)	(411.2)	(11.7)	(22.2)	(147.5)	(1 163.6)	(756.3)	(1 868.9)	(80.4)	(347.9)
2,500 employees or more	-	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	90	0.4	6.4	0.2	0.4	2.7	15.2	7.4	22.6	0.8	4.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3573	**Electronic computing equipment:**										
	Entire industry	931	192.6	3 003.9	85.5	172.3	978.1	7 622.5	5 700.5	12 921.8	651.4
	Establishments with 75 percent specialization or more	866	167.3	2 581.6	74.5	150.9	834.5	6 837.5	4 564.0	11 029.3	555.3
35731	Electronic computers:										
	Establishments with this product class primary	100	55.8	933.0	23.2	45.5	280.0	2 390.0	1 812.3	4 111.6	181.8
	Establishments with 75 percent specialization or more in class	69	29.9	459.0	13.3	26.4	158.0	1 439.2	704.0	2 107.7	87.8
35732	Peripheral equipment for electronic computers:										
	Establishments with this product class primary	198	98.9	1 516.5	44.2	90.2	514.2	4 217.0	2 970.1	6 933.3	386.4
	Establishments with 75 percent specialization or more in class	167	59.4	832.8	28.7	57.0	303.6	2 226.9	1 424.0	3 566.3	180.1
35734	Parts produced by complete machine manufacturers:										
	Establishments with this product class primary	54	24.0	378.2	10.0	20.4	109.1	663.1	652.0	1 259.5	61.8
	Establishments with 75 percent specialization or more in class	35	8.9	122.7	4.5	9.0	45.1	243.7	229.8	462.9	14.9
35735	Parts produced by other than complete machine manufacturerss:										
	Establishments with this product class primary	79	9.2	112.1	5.8	11.8	54.1	213.8	159.7	372.7	12.1
	Establishments with 75 percent specialization or more in class	63	6.9	85.5	4.0	8.0	37.2	169.3	136.0	305.3	9.6
3574	**Calculating and accounting machines:**										
	Entire industry	64	17.1	220.7	10.4	18.1	92.9	394.8	450.5	850.0	56.3
	Establishments with 75 percent specialization or more	55	10.6	134.7	5.9	10.7	46.1	289.1	232.4	505.8	40.5
35741	Adding machines and calculators, except electronic:										
	Establishments with this product class primary	-	-	-	-	-	-	-	-	-	-
35742	Electronic calculators and peripheral devices:										
	Establishments with this product class primary	11	8.8	107.8	5.4	10.2	45.7	220.0	259.1	478.9	43.8
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35743	Accounting machines and cash registers:										
	Establishments with this product class primary	20	7.9	108.3	4.7	7.4	44.5	165.6	186.0	356.5	12.1
	Establishments with 75 percent specialization or more in class	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35745	Parts for calculating and accounting machines:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3576	**Scales and balances, except laboratory:**										
	Entire industry	103	7.1	84.5	4.7	9.1	46.9	214.9	138.8	348.1	6.8
	Establishments with 75 percent specialization or more	97	6.4	77.8	4.2	8.4	43.8	203.1	127.1	324.2	6.5
3579-, 3572	**Office machines, n.e.c. and typewriters:**										
	Entire industry	215	42.4	638.8	22.9	43.7	266.0	1 691.3	1 077.1	2 719.7	111.5
	Establishments with 75 percent specialization or more	179	24.2	354.2	13.3	24.6	144.2	821.5	536.6	1 333.6	(D)
35793	Duplicating machines:										
	Establishments with this product class primary	11	5.2	78.4	2.5	4.4	31.1	226.5	215.9	452.2	4.2
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35794	Dictating, transcribing, and recording machines:										
	Establishments with this product class primary	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35795	Mailing, letter handling, and addressing machines:										
	Establishments with this product class primary	15	6.7	100.4	3.3	6.5	40.1	195.0	88.0	280.3	12.3
	Establishments with 75 percent specialization or more in class	10	6.0	91.3	2.8	5.5	34.7	174.0	66.1	238.4	10.8
35796	Other office machines:										
	Establishments with this product class primary	40	9.1	109.8	5.6	11.6	56.6	294.7	126.2	413.6	12.2
	Establishments with 75 percent specialization or more in class	21	2.3	26.6	1.5	2.9	15.1	65.6	29.6	93.6	3.5
35797	Typewriters (including coded media):										
	Establishments with this product class primary	23	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	22	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35798	Parts and attachments for office machines, n.e.c.:										
	Establishments with this product class primary	11	3.0	34.6	2.4	4.1	24.4	65.8	33.6	102.3	2.2
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3573	Electronic computing equipment.....1977..	12,921.8	11,530.2	768.8	622.8	94	12,673.2	11,530.2	1,143.0	91
	1972..	6,471.2	5,568.3	453.4	449.5	92	6,108.0	5,568.3	539.7	91
	1967..	3,770.9	3,516.5	158.9	95.5	96	4,048.8	3,516.5	532.3	87
3574	Calculating and accounting machines.....1977..	850.0	644.1	127.3	78.6	84	836.2	644.1	192.1	77
	1972..	632.1	594.6	18.8	23.7	97	694.2	594.6	99.6	86
	1967..	707.8	532.5	95.1	80.2	85	630.8	532.5	98.3	84
3576	Scales and balances, except laboratory.....1977..	348.1	325.6	12.5	10.0	96	328.9	325.6	3.3	99
	1972..	200.4	172.0	15.4	13.0	92	182.1	172.0	10.1	94
	1967..	140.2	125.7	9.7	4.8	93	131.4	125.7	5.7	96
3572, 3579	Office machines, n.e.c., and typewriters[1].....1977..	2,719.7	1,836.9	589.8	293.0	76	2,020.3	1,836.9	183.4	91
	1972..	1,296.2	912.7	237.4	146.1	79	1,064.9	912.7	152.2	86
	1967..	1,112.1	825.1	121.9	165.1	87	925.8	825.1	100.7	89

n.e.c. Not elsewhere classified.

[1]Data for industries 3572 and 3579 have been combined to avoid disclosing operations of individual companies.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Electronic computing equipment (SIC 3573)	Calculating and accounting machines (SIC 3574)	Scales and balances, except laboratory (SIC 3576)	Office machines, n.e.c. and typewriters (SIC 3579, 3572)	Other industries
	Total	(X)	12,921.8	850.0	348.1	2,719.7	(X)
	Primary products	(X)	11,530.2	644.1	325.6	1,836.9	(X)
	Secondary products	(X)	768.8	127.3	12.5	589.8	(X)
	Miscellaneous receipts	(X)	622.8	78.6	10.0	293.0	(X)
3573-	Electronic computing equipment	12,673.2	11,530.2	69.7	-	26.7	1,046.6
35731	Electronic computers	3,546.9	3,231.5	-	-	(D)	(D)
35732	Peripheral equipment for electronic computers	6,087.9	5,654.7	(D)	-	(D)	368.9
35734	Parts produced by complete machine manufacturers	2,414.2	2,105.6	(D)	-	(D)	(D)
35735	Parts produced by others	419.6	338.3	(D)	-	(D)	73.5
35730	Electronic computing equipment, n.s.k	204.6	200.1	-	-	-	4.5
3574-	Calculating and accounting machines	836.2	(D)	644.1	-	(D)	39.4
35741	Adding machines and calculators, except electronic	(D)	-	(D)	-	-	(D)
35742	Electronic calculators and peripheral devices	369.5	(D)	360.0	-	-	(D)
35743	Accounting machines and cash registers	(D)	(D)	(D)	-	(D)	(D)
35745	Parts for calculating and accounting machines	59.0	1.1	36.4	-	-	21.5
35740	Calculating and accounting machines, n.s.k	4.8	(D)	(D)	-	-	-
35760	Scales and balances except laboratory	328.9	(Z)	-	325.6	-	3.3
3579-, 3572	Office machines, n.e.c., and typewriters	2,020.3	(D)	(D)	-	1,836.9	84.0
35793	Duplicating machines	199.7	(D)	-	-	183.8	(D)
35794	Dictating, transcribing and recording machines	(D)	-	-	-	(D)	(D)
35795	Mailing, letter handling, and addressing machines	235.3	(D)	-	-	200.4	(D)
35796	Office machines, n.e.c	(D)	(D)	-	-	(D)	(D)
35797	Typewriters, including coded media	1,101.9	(D)	(D)	-	1,029.3	(D)
35798	Parts and attachments for office machines, n.e.c	143.3	(D)	-	-	126.0	(D)
35790	Office machines, n.e.c., n.s.k	38.0	-	-	-	37.5	.5
	Other shipments by 4-digit product group:						
2511-	Wood household furniture	(X)	-	-	(D)	-	(X)
2542-	Metal partitions and fixtures	(X)	(D)	-	-	(D)	(X)
2645-	Die-cut paper and board	(X)	-	-	-	(D)	(X)
2649-	Converted paper products, n.e.c	(X)	-	-	-	(D)	(X)
2751-	Commercial printing, letterpress	(X)	(D)	-	-	(D)	(X)
2782-	Blankbooks and looseleaf binders	(X)	-	-	-	(D)	(X)
2899-	Chemical preparations, n.e.c	(X)	-	-	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	-	(D)	(X)
3423-	Hand and edge tools, n.e.c	(X)	(D)	-	-	(D)	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	-	-	(D)	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	-	-	(D)	(X)
3661-	Telephone and telegraph apparatus	(X)	(D)	-	-	(D)	(X)
3662-	Radio and TV communication equipment	(X)	(D)	(D)	(D)	(D)	(X)
3678-	Electronic connectors	(X)	6.5	-	(D)	(D)	(X)
3679-	Electronic components, n.e.c	(X)	(D)	-	(D)	(D)	(X)
3694-	Engine electrical equipment	(X)	(D)	-	-	-	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	-	-	-	(D)	(X)
3728-	Aircraft equipment, n.e.c	(X)	(D)	(D)	-	(D)	(X)
3824-	Fluid meters and counting devices	(X)	(D)	-	-	(D)	(X)
3829-	Measuring and controlling devices, n.e.c	(X)	(D)	-	-	-	(X)
3841-	Surgical and medical instruments	(X)	(D)	-	-	(D)	(X)
3861-	Photographic equipment and supplies	(X)	(D)	(D)	-	(D)	(X)
3873-	Watches, clocks, and watchcases	(X)	-	(D)	(D)	(D)	(X)
3952-	Lead pencils and art goods	(X)	-	-	-	(D)	(X)
3955-	Carbon paper and inked ribbons	(X)	-	(D)	-	(D)	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	27.7	(D)	(D)	2.3	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	.2	(D)	(X)
99980 41	Receipts for research and development	(X)	(D)	-	(D)	(D)	(X)
99980 61	Receipts for repair work	(X)	119.4	(D)	(D)	8.1	(X)
99980 98	Other miscellaneous receipts	(X)	82.3	.3	.4	39.8	(X)
99989 00	Resales	(X)	260.3	61.3	7.6	242.3	(X)

See footnotes at end of table.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3573	3622 Industrial controls	(D)	3573	3861 Photographic equipment and supplies	(D)
	3643 Current-carrying wiring devices	(D)			
	3662 Radio and television transmitting, signaling, and detection equipment and apparatus	(D)	3574	3554 Paper industries machinery	(D)
	3674 Semiconductors and related devices	(D)		3581 Automatic merchandising machines	(D)
	3679 Electronic components, n.e.c	(D)		3651 Radio and TV receiving sets	(D)
	3728 Aircraft equipment, n.e.c	(D)		3728 Aircraft equipment, n.e.c	(D)
	3811 Engineering and scientific instruments	(D)		3822 Environmental controls	(D)
	3822 Environmental controls	(D)	3579, 3572	2641 Paper coating and glazing	(D)
	3823 Process control instruments	(D)		2761 Manifold business forms	(D)
	3825 Instruments to measure electricity	(D)		3552 Textile machinery	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.
n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	ELECTRONIC COMPUTING EQUIPMENT						
3573- --	Total	.....	(NA)	(X)	12,673.2	(X)	6,108.0
35731 --	Electronic computers:						
	As reported in census of manufactures	.....	129	(X)	3,546.9	(X)	1,884.3
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	.....	100	158.8	3,579.4	(X)	1,836.6
	Digital:						
35731 11	General purpose	Thousands	64	90.0	2,784.8	(X)	1,534.0
35731 13	Special purpose		42	27.3	466.6	(X)	256.3
35731 22	Analog		15	41.4	328.0	(X)	17.8
35731 25	Hybrid	Thousands				(X)	28.5
35732 --	Peripheral equipment for electronic computers:						
	As reported in census of manufactures	.....	231	(X)	6,087.9	(X)	2,745.3
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	.....	200	(X)	6,025.9	(X)	2,685.3
	Auxiliary storage equipment:						
	Direct access storage units:						
35732 31	Magnetic disk drives and disks, rigid and flexible	Thousands	55	4,386.3	1,977.9		
35732 33	Other, such as bulk core memory, drum, and magnetic card, semi-conductor, etc					(X)	1,004.5
35732 34	Serial access auxiliary storage units such as magnetic tape units		60	846.8	866.2	(X)	513.0
	Input-output equipment:						
35732 36	Card key entry devices		15	23.2	73.5	(X)	64.3
35732 38	Magnetic media key entry devices		12	5.4	14.2	(X)	68.4
35732 41	Systems oriented punch card equipment		24	27.2	94.2	(X)	55.0
35732 51	Optical scanning devices		4	(1)	(1)		
35732 53	Magnetic ink recognition devices		17	156.8	144.4	(X)	15.4
35732 55	Graphic displays		49	231.0	826.1	(X)	295.8
35732 61	Printers						
35732 63	Industrial control input-output equipment, including analog-to digital converters, digital-to analog converters, and sensor interfaces					(X)	29.1
35732 65	All other input-output devices, including plotters, paper tape neaders, paper tape punches, etc., and off-line punch card equipment, such as tabulators, collators, sorters, and interpreters		(NA)	1155.1	1208.8	(X)	126.0
	Computer terminals:						
35732 71	Alphanumeric display terminals based on CRT displays, typically including keyboard and sometimes a serial printer or type cassette (usually designed to operate with voice grade, communication facilities)		53	609.2	1,299.5	(X)	196.1
35732 73	Multifunction terminals					(X)	30.2
35732 75	Special purpose terminals		21	52.4	176.5	(X)	83.5
	Digital communications interface equipment:						
35732 81	Line interface equipment such as modems (adapters, data sets)		38	58.0	72.2		
35732 83	Multiplexors, including frequency division and time division multiplexors		20	23.0	155.8	(X)	108.7
35732 89	Other types of peripheral equipment	Thousands	39	465.4	116.6	(X)	95.2
35734 --	Parts for electronic computers and peripheral equipment, produced by complete machine manufacturers	.....	(NA)	(X)	2,414.2	(X)	1,110.1
	For electronic computers:						
35734 20	As reported in census of manufactures	.....	46	(X)	961.5	(X)	495.2
	As reported in Current Industrial Reports MA-35R, Office Computing, and Accounting Machines	.....	51	(X)	940.0	(X)	465.7
	For peripheral equipment:						
35734 30	As reported in census of manufactures	.....	63	(X)	1,452.7	(X)	614.9
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	.....	60	(X)	1,455.8	(X)	607.7
35735 --	Parts for electronic computers and peripheral equipment, produced by other than complete machine manufacturers	.....	(NA)	(X)	419.6	(X)	293.1
35735 41	For electronic computers	.....	85	(X)	285.5	(X)	134.4
35735 51	For peripheral equipment	.....	36	(X)	134.1	(X)	158.7
35735 00	Parts for electronic computers and peripheral equipment produced by other than complete machine manufacturers, n.s.k.	.....	-	(X)	-	(X)	-
35730 00	Electronic computing equipment, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	91.2	(X)	59.2
35730 02	Electronic computing equipment, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	113.4	(X)	16.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
				Product shipments		Product shipments	
			Number of companies	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	CALCULATING AND ACCOUNTING MACHINES						
3574- --	Total	.....	(NA)	(X)	836.2	(X)	694.2
35741 --	Adding and calculating machines, except electronic calculators:						
	As reported in the census of manufactures	.....	1	(X)	(2)	(X)	(2)
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	1	(X)	(2)	(X)	(2)
	Adding machines:						
35741 21	10 keyboard, hand and electromechanical		1	(X)	(D)	(X)	41.1
35741 27	Full keyboard, hand and electromechanical		-	-	-		
	Calculating machines, except electronic:						
35741 31	Printing calculators		-	-	-	(D)	(2)
35741 35	Rotary and key-driven calculators, hand and electromechanical	Thousands	-	-	-	-	-
35742 --	Electronic calculating machines:						
	As reported in the census of manufactures	.....	15	(X)	369.5	(X)	225.8
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	18	13,308.4	376.9	927.8	221.0
35742 31	Hand-held, 4 and 5 function (generally four-function: +, -, x, ÷, plus % key and one memory or less)						
35742 33	Hand-held, 6 functions or more, including programable, display, and/or printing		10	11,744.0	202.9		
35742 34	Desk top, display only		6	(D)	(D)	927.8	221.0
35742 35	Desk top, printing and printing display		6	928.0	124.8		
35742 39	Peripheral devices for electronic calculating machines	Thousands	4	(D)	(D)		
35743 --	Accounting machines and cash registers:						
	As reported in the census of manufactures	.....	28	(X)	2402.8	(X)	2444.2
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	30	195.0	2405.1	(X)	2425.5
35743 11	Accounting and bookkeeping machines, including billing machines with accounting registers and electronic accounting machine type data terminals		(2)	(D)	(D)		
35743 41	Coin and currency handling machines, including manual and coin-operated change makers, coin counting, dispensing and sorting, currency counting, and payroll denominating machines		17	42.5	63.6		
35743 51	Cash registers, including adding machines with cash drawers		9	32.6	39.3		
35743 53	Electronic cash register type point of sale retail devices, including data capturing control registers		11	86.9	184.5		
35743 61	Coded documents sorting machines, excluding punch card equipment		-	-	-		
35743 95	Rebuilt adding, calculating, accounting machines, and cash registers		1	(D)	(D)	(X)	(D)
35743 98	Other calculating and accounting machines, except electronic computers and peripheral equipment for electronic computing systems, n.e.c	Thousands	1	(D)	(D)		
35745 --	Parts and attachments for adding, calculating, and accounting machines and cash registers	.....	(NA)	(X)	59.0		
35745 10	Produced by complete machine manufacturers:						
	As reported in the census of manufactures	.....	15	(X)	39.0		
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	.....	9	(X)	40.6		
35745 31	Produced by other than complete machine manufacturers	.....	8	(X)	20.0	(X)	13.2
35745 00	Parts and attachments for adding, calculating, and accounting machines and cash registers, n.s.k	.....	-	(X)	-	(X)	-
35740 00	Calculating and accounting machines, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	.6	(X)	6.5
35740 02	Calculating and accounting machines, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	4.2	(X)	4.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity[3]	Value (million dollars)	Quantity	Value (million dollars)
	SCALES AND BALANCES, EXCEPT LABORATORY						
3576- --	Total	.....	(NA)	(X)	328.9	(X)	182.1
35760 --	Scales and balances, except laboratory:						
35760 13	Motor truck scales	Thousands	10	**3.4	27.7	2.0	13.8
35760 15	Railroad track scales	Thousands	6	**.2	5.1	.1	1.7
	Industrial scales:						
35760 21	Bench and portable	.....	12	(X)	32.4	(X)	13.2
35760 23	Floor scales, including built-in and dormant	.....	11	(X)	15.5	(X)	8.8
35760 25	Predetermined weighing and check weighing scales, all types, except automatic bulk material weighers, fillers, and batching	.....	14	(X)	17.2	(X)	9.1
35760 27	Automatic bulk material weighers, predetermined weight type, for weighing, filling, batching, and proportioning	.....	13	(X)	26.9	(X)	15.4
35760 29	Miscellaneous industrial scales, including special purpose, crane, suspension, tank, hopper, force measuring devices, and conveyor scales (weigh and feed) for bulk materials	.....	14	(X)	34.3	(X)	21.6
	Retail and commercial scales:						
35760 31	Computing	Thousands	6	(NA)	62.6	16.6	31.2
35760 35	Miscellaneous, including noncomputing counter, cotton beams and steel yards, egg-grading scales, and hanging scales for retail use	.....	9			(X)	6.5
	Household and person weighing scales:						
35760 41	Bathroom	Thousands	5	5,554.5	25.7	5,773.6	18.2
35760 45	Person-weighing scales (coin operated and free weighing) and miscellaneous household scales, including kitchen, baby scales, etc	.....	7	(X)	12.4	(X)	8.1
35760 51	Mailing and parcel post scales	Thousands	7	**65.7	8.2	(S)	3.3
35760 82	Accessories and attachments (sold separately)	.....	8	(X)	15.8	(X)	3.5
35760 84	Parts for scales and balances (sold for assembly elsewhere, repair, service, etc.)	.....	16	(X)	28.6	(X)	14.8
35760 00	Scales and balances, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	5.0	(X)	10.7
35760 02	Scales and balances, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	11.5	(X)	2.2
	OFFICE MACHINES, N.E.C.[4]						
3579- --	Total	.....	(NA)	(X)	2,020.3	(X)	1,046.9
35793 --	Duplicating Machines:						
	As reported in census of manufactures	.....	14	(X)	199.7	(X)	83.6
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	14	155.8	199.6	93.2	82.3
	Duplicating machines:						
	Spirit:						
35793 11	Hand		6	7.3	1.9	13.0	2.0
35793 12	Electric		8	54.0	75.3	42.1	21.2
	Stencil:						
35793 13	Hand		5	15.7	7.4	38.1	59.1
35793 14	Electric						
35793 16	Offset						
35793 19	Other, including gelatin and ribbon and ink	Thousands	6	78.8	115.0		
35794 --	Dictating, transcribing, and recording machines:						
	As reported in census of manufactures	.....	4	(X)	(5)	(X)	(5)
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	4	(X)	(5)	(X)	(5)
	Dictating, transcribing, and recording machines (all media):						
35794 21	Systems		3	16.2	19.1	(X)	(6)
35794 23	Desk units		2	(D)	(D)		
35794 25	Portable units		2				
35794 28	Transcribing units, excluding systems		2				
35794 29	Other types	Thousands	2				

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
				Product shipments		Product shipments	
			Number of companies	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	OFFICE MACHINES, N.E.C.[4]--Con.						
35795 --	Mailing, letter handling, collating, and addressing machines:						
	As reported in census of manufactures	.....	23	(X)	235.3	(X)	128.6
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	(NA)	560.4	235.2	(X)	126.4
35795 34	Forms handling equipment, including bursters, decollators, imprinters, autographic registers		10	124.2	21.9	85.8	9.2
35795 41	Mailing machines, including mail sorting machines, mail tying (bundling) machines, mail cancelling (post office) machines, postage meters, postal permit mailing machines, stamp affixers						
35795 43	Letter and envelope handling machines, including envelope stuffing and sealing machines, letter opening machines, letter inserting machines, letter folding, stuffing, and sealing machines		14	168.8	146.4		
35795 45	Collating machines		7	7.2	19.2	(X)	117.2
35795 47	Addressing machines, including address labeling machines, addressing plates, addressing plate embossers, and addresser-printer machines	Thousands	10	260.2	47.7		
35796 --	Other office machines, n.e.c.:						
	As reported in census of manufactures	.....	59	(X)	[5]302.2	(X)	[5]254.7
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	(NA)	(D)	[5]314.2	(X)	[5]237.1
35796 31	Check handling machines, including canceling, cutting, dating, endorsing, numbering, protecting, signing, and writing machines		14	186.9	41.1	178.5	43.8
35796 32	Electric stapling machines (office type)					(X)	([6])
35796 33	Time recording and time stamp machines		10	159.4	29.6	133.5	22.1
35796 98	All other office machines, n.e.c., including shorthand writing machines, pencil sharpeners, stapling machines except electric, papercutters, etc	Thousands	51	24,524.0	187.6	(X)	[6]171.2
35797 --	Typewriters, including coded media and parts[4]	.....	15	(X)	1,101.9	(X)	(D)
	Typewriters, including coded media, except parts and attachments:						
35797 20	As reported in census of manufactures	.....	13	(X)	[7]1,053.6	(X)	377.6
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	Thousands	13	[8]1,291.3	[7]1,027.8	(S)	380.5
	Standard (nonportable):						
35797 01	Electric						
35797 03	Nonelectric						
35797 05	Portable		13	[8]1,291.3	[7]1,027.8	(S)	380.5
35797 12	Specialized typewriters and typewriter principal machines and other automatic typing and word processing machines	Thousands					
	Parts and attachments for typewriters, sold separately:						
	Produced by complete machine manufacturers:						
35797 40	As reported in census of manufactures	.....	7	(X)	([7])	(X)	(D)
	As reported in Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	.....	12	(X)	([7])	(X)	(D)
35797 51	Produced by other than complete machine manufacturers	.....	11	(X)	48.3	(X)	13.0
35797 00	Typewriters, including coded media and parts, n.s.k.	.....	-	(X)	-	(X)	2.7
35798 --	Parts and attachments for addressing, dictating, duplicating, and other office and store machines, n.e.c.	.....	(NA)	(X)	143.3	(X)	(D)
35798 20, 40, 50	Produced by complete machine manufactures:						
	As reported in census of manufactures	.....	38	(X)	108.3	(X)	77.0
	As reported in the Current Industrial Reports MA-35R, Office, Computing, and Accounting Machines	.....	(NA)	(X)	106.4	(X)	83.3
35798 20	Parts and attachments for duplicating machines, sold separately	.....	13			(X)	48.0
35798 40	Parts for dictating equipment	.....	4	(X)	[r]106.4		
35798 50	Parts and attachments for office machines, n.e.c., except duplicating machines and dictating equipment	.....	32			(X)	35.3
35798 41	Produced by other than complete machine manufacturers	.....	13	(X)	35.0	(X)	(D)
35798 00	Parts and attachments for addressing, dictating, duplicating, and other office and store machines, n.e.c., n.s.k.	.....	-	(X)	-	(X)	-
35790 00	Office machines, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	15.4	(X)	11.7
35790 02	Office machines, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	22.6	(X)	6.3

Footnotes are on next page.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. r Revised (X) Not applicable

[1]Data for product codes 35732 53, 35732 63, and 35732 65 were combined to avoid disclosing operations of individual companies.

[2]Values for these products were included in total value for product class 35743 to avoid disclosing operations of individual companies.

[3]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[4]For 1977 and 1972, Industry 3572, Typewriters was combined with Industry 3579, Office Machines, N.E.C. to avoid disclosing operation of individual companies.

[5]For 1977 and 1972, product classes 35794 and 37596 were combined to avoid disclosing operations of individual companies.

[6]For 1972, product codes 35794 21, 35794 23, 35794 25, 35794 28, 35794 29, 35796 32, and 35796 98 were combined to avoid disclosing operations of individual companies.

[7]For 1977, product codes 35797 20 and 35797 40 were combined to avoid disclosing operations of individual operations.

[8]Quantity is limited to complete typewriters.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35731, ELECTRONIC COMPUTERS		
United States	3,546.9	1,884.3
New England Division:		
Massachusetts	643.4	GG
Middle Atlantic Division:		
New Jersey	108.1	GG
Pennsylvania	100.8	FF
West North Central Division:		
Minnesota	428.8	GG
South Atlantic Division:		
Florida	177.2	GG
Mountain Division:		
Colorado	15.4	(NA)
Pacific Division:		
California	782.8	GG
35732, PERIPHERAL EQUIPMENT FOR ELECTRONIC COMPUTERS		
United States	6,087.9	2,745.3
New England Division:		
Massachusetts	808.2	227.8
Connecticut	109.1	FF
Middle Atlantic Division:		
New York	410.5	411.9
New Jersey	70.3	FF
Pennsylvania	62.7	FF
West North Central Division:		
Minnesota	464.9	GG
South Atlantic Division:		
Maryland	24.0	CC
Florida	84.0	FF
West South Central Division:		
Texas	286.5	FF
Mountain Division:		
Arizona	90.7	FF
Pacific Division:		
California	2,022.3	722.1
35734, PARTS PRODUCED BY COMPLETE MACHINE MANUFACTURERS		
United States	2,414.2	1,110.1
New England Division:		
Massachusetts	128.2	(NA)
Middle Atlantic Division:		
New York	597.3	(NA)
New Jersey	30.3	(NA)
West North Central Division:		
Minnesota	306.1	(NA)
South Atlantic Division:		
Florida	83.8	(NA)
Mountain Division:		
Arizona	109.3	(NA)
Pacific Division:		
California	605.7	(NA)
35735, PARTS PRODUCED BY OTHERS		
United States	419.6	293.1
New England Division:		
Massachusetts	34.8	(NA)
Middle Atlantic Division:		
New York	37.3	(NA)
New Jersey	14.9	(NA)
Pennsylvania	11.4	(NA)
South Atlantic Division:		
Florida	10.5	(NA)
Pacific Division:		
California	138.0	(NA)
35742, ELECTRONIC CALCULATORS AND PERIPHERAL DEVICES		
United States	369.5	225.8
Pacific Division:		
California	15.7	FF
35743, ACCOUNTING MACHINES AND CASH REGISTERS		
United States	(D)	(NA)
New England Division:		
Connecticut	4.9	(NA)
Pacific Division:		
California	38.2	(NA)
35745, PARTS FOR CALCULATING AND ACCOUNTING MACHINES		
United States	59.0	(NA)
Pacific Division:		
California	17.3	(NA)
35795, MAILING, LETTER HANDLING, AND ADDRESSING MACHINES		
United States	235.3	128.6
East North Central Division:		
Illinois	15.2	CC
35796, OFFICE MACHINES, N.E.C.		
United States	(D)	(D)
New England Division:		
Connecticut	7.0	(NA)
Middle Atlantic Division:		
New York	47.2	(NA)
East North Central Division:		
Ohio	37.2	(NA)
Illinois	61.1	(NA)
Pacific Division:		
California	14.0	(NA)
35798, PARTS AND ATTACHMENTS FOR OFFICE MACHINES, N.E.C.		
United States	143.3	(D)
East North Central Division:		
Ohio	30.3	(NA)
Pacific Division:		
California	14.6	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. **Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(In millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3573-	Electronic computing equipment	12,673.2	10,136.2	8,442.7	8,668.2	7,084.5	6,108.0	4,048.8	(NA)
35731	Electronic computers	3,546.9	2,603.3	2,308.8	2,227.6	1,881.0	1,884.3		
35732	Peripheral equipment for electronic computers	6,087.9	5,191.0	3,967.7	3,977.8	3,289.0	2,745.3	3,123.9	(NA)
35734	Parts produced by complete machine manufacturers	2,414.2	2,217.1	2,116.2	2,345.3	1,868.7	1,403.2	906.4	(NA)
35735	Parts produced by others	419.6							
35730	Electronic computing equipment, n.s.k.	204.6	(124.8)	(50.0)	(117.5)	45.8	75.2	18.5	(NA)
3574-	Calculating and accounting machines	836.2	790.0	837.0	1,207.0	990.1	694.2	630.8	(NA)
35741	Adding machines and calculators, except electronic	(D)	(D)	(D)	(D)	(D)	(D)		
35742	Electronic calculators and peripheral devices	369.5	334.4	451.7	648.3	425.7	225.8	464.3	(NA)
35743	Accounting machines and cash registers	(D)	(D)	(D)	(D)	(D)	(D)		
35745	Parts for calculating and accounting machines	59.0	(D)	(D)	(D)	(D)	(D)	131.7	(NA)
35740	Calculating and accounting machines, n.s.k.	4.8	(S)	(S)	(7.1)	(13.1)	11.0	34.8	(NA)
35760	Scales and balances except laboratory	328.9	299.4	267.6	234.5	200.4	182.1	131.4	90.0
3579-, 3572	Office machines, n.e.c., and typewriters	2,020.3	1,565.2	1,336.5	1,440.7	1,171.9	1,064.9	925.8	541.3
35793	Duplicating machines	199.7	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
35794	Dictating, transcribing and recording machines	(D)	311.4	267.6	286.3	264.9	254.7	(NA)	(NA)
35795	Mailing, letter handling, and addressing machines	235.3	196.4	172.7	199.4	148.8	128.6	(NA)	(NA)
35796	Office machines, n.e.c.	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
35797	Typewriters, including coded media	1,101.9	909.1	796.9	850.6	638.9	580.0	508.1	(NA)
35798	Parts and attachments for office machines, n.e.c.	143.3						65.8	(NA)
35790	Office machines, n.e.c., n.s.k.	38.0	(S)	(-)	(9.4)	32.8	18.0	18.8	(NA)

Represents zero. (D) Withheld to avoid disclosing operationsoof individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because the estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. **Materials Consumed by Kind: 1977 and 1972**

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3573, ELECTRONIC COMPUTING EQUIPMENT					
	Materials, parts, containers, and supplies	.....	(X)	5,240.6	(X)	2,797.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	2.6	2.9	2.2
331012	Sheet and strip		*20.0	8.2	(S)	5.6
331015	Structural shapes		(S)	7.4	(S)	3.2
331017	Wire and wire products		(S)	1.7	(S)	.8
331019	All other carbon steel mill shapes and forms		(S)	2.1	(S)	1.8
331020	Alloy steel, except stainless		(S)	5.3	1.3	2.4
	Stainless steel:					
331033	Sheet and strip		(S)	.9	9.7	9.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	3.2	.6	2.0
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content)..	**14.3	28.0	14.2	24.9
335770	Magnet wire	Million lb.....	(S)	2.1		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		(S)	9.2	(S)	4.4
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		.6	.9		
335143	Plate, sheet, and strip, including military cups and discs		(S)	2.4	(X)	(2)
335152	Pipe and tube		**1.7	1.3		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**10.6	9.9	6.1	3.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**6.4	4.7	(S)	3.9
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	1.7	2.5	3.5
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	(S)	18.8	3.7	3.5
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	**30.1	39.5	11.0	15.4
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(S)	22.9	181.9	9.3
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Fractional horsepower electric motors, excluding timing motors:					
	Purchased		(S)	27.7	(S)	19.0
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	4.3	36.4	5.6
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	8.6	(X)	3.7
356201	Roller	.....	(X)	2.7	(X)	1.5
364301	Appliance outlets, switches, lampholders, and other current-carrying wiring devices	.....	(X)	33.8	(X)	28.1
367010	Electron tubes, except X-ray	Millions.....	(S)	25.3	(X)	(2)
367408	Semiconductors	Millions.....	(S)	513.7	455.1	277.9
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except semiconductors	.....	(X)	421.2	(X)	335.8
357330	Parts and attachments specially designed for electronic computing equipment	.....	(X)	2,364.5	(X)	1,228.1
260003	Paper and paperboard products, except paperboard boxes and containers	.....	(X)	13.9		
265001	Paperboard boxes and containers	.....	(X)	26.2		
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	4.0		
307902	Fabricated plastics products, except gaskets	.....	(X)	62.9		
344401	Sheet metal products, except stampings	.....	(X)	123.0	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	33.8		
346901	Metal stampings	.....	(X)	67.4		
360101	Electrical transmission distribution and control equipment, including switchgear, fuses, transformers, relays, regulators, etc	.....	(X)	64.3		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	878.6	(X)	[2]674.4
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	391.9	(X)	127.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3574, CALCULATING AND ACCOUNTING MACHINES					
	Materials, parts, containers, and supplies		(X)	401.3	(X)	235.8
	Mill shapes and forms except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons			6.1	1.9
331012	Sheet and strip				8.3	5.3
331015	Structural shapes		(S)	.7		
331017	Wire and wire products				.3	.4
331019	All other carbon steel mill shapes and forms					
331020	Alloy steel, except stainless		-	-		
	Stainless steel:					
331033	Sheet and strip		(D)	(D)	.5	.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(D)	(D)		
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content)	(S)	.4		
335770	Magnet wire	Million lb	-	-	(D)	(D)
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		-	-	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(D)	(D)		
335143	Plate, sheet, and strip, including military cups and discs		-	-	(X)	(2)
335152	Pipe and tube		(D)	(D)		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)		
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(D)	(D)		
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(D)	(D)	(S)	.4
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons	(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(D)	(D)	(S)	1.2
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Fractional horsepower electric motors, excluding timing motors:					
	Purchased		(S)	6.7	(S)	3.3
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		-	-	-	-
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	.2	(X)	.9
356201	Roller		(X)	.3		
364301	Appliance outlets, switches, lampholders, and other current-carrying wiring devices		(X)	2.0	(X)	3.5
367010	Electron tubes, except X-ray	Millions	(D)	(D)	(X)	(2)
367408	Semiconductors	Millions	(X)	60.1	261.3	56.7
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except semiconductors		(X)	30.2	(X)	34.7
357330	Parts and attachments specially designed for electronic computing equipment		(X)	66.9	(X)	29.4
260003	Paper and paperboard products, except paperboard boxes and containers		(X)	2.9		
265001	Paperboard boxes and containers		(X)	6.0		
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	.3		
307902	Fabricated plastics products, except gaskets		(X)	19.2		
344401	Sheet metal products, except stampings		(X)	2.2	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	4.3		
346901	Metal stampings		(X)	(D)		
360101	Electrical transmission distribution and control equipment, including switchgear, fuses, transformers, relays, regulators, etc		(X)	(D)		
970099	All other materials and components, parts, containers, and supplies		(X)	157.4	(X)	273.7
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	24.0	(X)	21.1

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3576, SCALES AND BALANCES, EXCEPT LABORATORY					
	Materials, parts, containers, and supplies	.....	(X)	126.7	(X)	66.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	**5.3	2.8	2.8	.8
331012	Sheet and strip		(S)	7.9	23.9	4.9
331015	Structural shapes		**13.3	7.9	9.4	1.9
331017	Wire and wire products				.2	.1
331019	All other carbon steel mill shapes and forms		*.3	.4	2.1	.8
331020	Alloy steel, except stainless		(D)	(D)		
	Stainless steel:				.6	.8
331033	Sheet and strip		(S)	.9		
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	1.2		
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content)	(S)	.1	(D)	(D)
335770	Magnet wire	Million lb	-	-		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		(Z)	(Z)	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	.1	(X)	(2)
335143	Plate, sheet, and strip, including military cups and discs		(D)	(D)	(X)	(2)
335152	Pipe and tube		(Z)	(Z)	(X)	(2)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.2		
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc				.5	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	.5		
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons	(S)	7.1	0.4	.5
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	*3.0	2.8	1.5	1.4
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp.):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(S)	.2	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Fractional horsepower electric motors, excluding timing motors:					
	Purchased		(S)	(4)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp. and over):					
	Purchased		(S)	41.0	4.2	.3
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	.4	(X)	.2
356201	Roller		(X)	.2		
364301	Appliance outlets, switches, lampholders, and other current-carrying wiring devices		(X)	.8	(X)	(D)
367010	Electron tubes, except X-ray	Millions				
367408	Semiconductors		(X)	3.4	(X)	(D)
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except semiconductors		(X)	13.0	(X)	(D)
357330	Parts and attachments specially designed for electronic computing equipment		(X)	5.6	(X)	(2)
260003	Paper and paperboard products, except paperboard boxes and containers		(X)	.2	(X)	(2)
265001	Paperboard boxes and containers		(X)	1.8	(X)	(2)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	2.8	(X)	(2)
307902	Fabricated plastics products, except gaskets				(X)	(2)
344401	Sheet metal products, except stampings		(X)	.9	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	2.5	(X)	(2)
346901	Metal stampings		(X)	1.8	(X)	(2)
360101	Electrical transmission distribution and control equipment, including switchgear, fuses, transformers, relays, regulators, etc		(X)	2.4	(X)	(2)
970099	All other materials and components, parts, containers, and supplies		(X)	41.4	(X)	240.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	16.2	(X)	7.6

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRIES 3579, OFFICE MACHINES, N.E.C., AND 3572, TYPEWRITERS					
3579-- 3572--	Materials, parts, containers, and supplies	.....	(X)	892.8	(X)	326.1
	Mill shapes and forms except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	14.6	9.9	15.1	6.8
331012	Sheet and strip		40.1	17.1	57.1	20.8
331015	Structural shapes				15.8	7.0
331017	Wire and wire products		(S)	6.6	(S)	1.6
331019	All other carbon steel mill shapes and forms		2.2	2.5	1.8	1.0
331020	Alloy steel, except stainless		(S)	1.4	1.2	.8
	Stainless steel:					
331033	Sheet and strip		.4	1.0	1.0	1.0
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	.6	1.4	.1	.3
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content).				
335770	Magnet wire	Million lb	(S)	1.7	.7	1.1
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)				(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		.4	.6		
335143	Plate, sheet, and strip, including military cups and discs		.3	.6	(X)	(2)
335152	Pipe and tube		(S)	.1		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		1.9	1.8	1.4	.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*2.5	3.0	2.9	2.1
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	**.2	.3	(S)	.4
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	(S)	4.1	(D)	(D)
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	19.1	(S)	8.3
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	296.9	4.2	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Fractional horsepower electric motors, excluding timing motors:					
	Purchased		1,640.0	23.6	(S)	6.0
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	.8	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	2.3	(X)	1.6
356201	Roller		(X)	2.5	(X)	.5
364301	Appliance outlets, switches, lampholders, and other current-carrying wiring devices		(X)	8.6	(X)	4.4
367010	Electron tubes, except X-ray	Millions	(X)	1.7	(X)	(2)
367408	Semiconductors		(X)	12.4	(X)	3.2
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except semiconductors		(X)	22.1	(X)	(2)
357330	Parts and attachments specially designed for electronic computing equipment		(X)	12.5	(X)	(2)
260003	Paper and paperboard products, except paperboard boxes and containers		(X)	23.6	(X)	3 13.0
265001	Paperboard boxes and containers		(X)	15.8	(X)	5 10.0
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	5.8	(X)	5 3.0
307902	Fabricated plastics products, except gaskets		(X)	26.0	(X)	5 4.0
344401	Sheet metal products, except stampings		(X)	14.3	(X)	5 5.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	15.7	(X)	5 11.0
346901	Metal stampings		(X)	37.5	(X)	5 6.0
360101	Electrical transmission distribution and control equipment, including switchgear, fuses, transformers, relays, regulators, etc		(X)	11.3	(X)	5 4.0
970099	All other materials and components, parts, containers, and supplies		(X)	535.2	(X)	2 177.1
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	45.7	(X)	23.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, these material codes were included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1977, material codes 362115 and 362120 were combined to avoid disclosing operations of individual companies.

[5]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

Service Industry Machines and Machine Shops

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DESCRIPTION OF INDUSTRIES

SERVICE INDUSTRY MACHINES AND MACHINE SHOPS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3581	Automatic Merchandising Machines
3582	Commercial Laundry Equipment
3585	Refrigeration and Heating Equipment
3586	Measuring and Dispensing Pumps
3589	Service Industry Machinery, N.E.C.
3592	Carburetors, Pistons, Rings, and Valves
3599	Machinery, Except Electrical, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3581, AUTOMATIC MERCHANDISING MACHINES

This industry comprises establishments primarily engaged in the manufacture of automatic merchandising units, also referred to as vending machines, excluding music, amusement, or gaming machines, and coin-operated mechanisms for such machines.

The total value of shipments for establishments classified in the Automatic Merchandising Machinery industry amounted to $410 million in 1977, an increase of 26 percent from 1972. The value of shipments of products classified as primary to the industry was $396 million, an increase of 29 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were vending machines for beverages, for which shipments increased 39 percent, and vending machines for confections and food, for which shipments increased 34 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $212 million in 1977, was 15 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.8 thousand employees, a decrease of 16 percent from 1972. The leading States in employment were Missouri, New Jersey, Arkansas, and California, accounting for approximately 49 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of automatic merchandising machines, except parts only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of automatic merchandising machines are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35U, Vending Machines (Coin Operated). Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of laundry and dry cleaning equipment and pressing machines for commercial and industrial use. Establishments primarily engaged in the manufacture of household laundry equipment, including coin-operated washers and driers, are classified in industry 3633.

The total value of shipments for establishments classified in the Commercial Laundry Equipment industry amounted to

$220 million in 1977, an increase of 40 percent from 1972. The value of shipments of products classified as primary to the industry was $234 million, an increase of 26 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were drying tumblers, for which shipments increased 70 percent. Value added by manufacture, at $117 million in 1977, was 33 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 4.6 thousand employees, a decrease of 4 percent from 1972. The leading States in employment were Ohio, Texas, Kentucky, and Louisiana, accounting for approximately 60 percent of the industry's 1977 employment. Data for Ohio, Kentucky, and Louisiana have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of refrigeration equipment and systems and similar equipment for commerical and industrial use; complete air conditioning units for domestic, commercial, and industrial use; and warm air furnaces, except electric. This industry also includes establishments primarily engaged in the manufacture of soda fountains and beer dispensing equipment. Humidifiers and dehumidifiers, except room, are also classified in this industry. Establishments primarily engaged in the manufacture of household refrigerators and home and farm freezers are classified in industry 3632; electric air space heaters in industry 3634; and electric warm air furnaces and other electric comfort heating equipment in industry 3699.

The total value of shipments for establishments classified in the Refrigeration and Heating Equipment industry amounted to $9,638 million in 1977, an increase of 36 percent from 1972. The value of shipments of products classified as primary to the industry was $8,502 million, an increase of 36 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were heat pumps, for which shipments increased from $41 million to $303 million. However, shipments of room air conditioners and warm air furnaces changed only slightly, from $1,026 million in 1972 to $1,058 million in 1977. Value added by manufacture, at $4,469 million in 1977, was 27 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 138.6 thousand employees, a decrease of 8 percent from 1972. The leading States in employment were Ohio, New York, Texas, and Tennessee, accounting for approximately 40 percent of the industry's 1977 employment. Data for New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. This represents a shift from 1972 when Ohio, New York, Michigan, and Texas accounted for approximately 45 percent of the industry's employment.

The 1977 census obtained data on shipments of refrigeration and heating equipment, except parts only at product class levels. This is the source of the data in table 6a described "As reported in census of manufacture." Detailed figures on the shipments of refrigeration and heating equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-35M, Air Conditioning and Refrigeration Equipment. Some of these data are also in table 6a.

The census of manufactures data for industry 3585 include data for "captive" production, i.e., production of air conditioning and refrigeration compressors and condensers for use by the producing company. Most of these captive establishments are part of companies engaged in the manufacture of complete air conditioners, refrigerators, and furnaces.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3586, MEASURING AND DISPENSING PUMPS

This industry comprises establishments primarily engaged in the manufacture of measuring and dispensing pumps commonly used in service and filling stations for dispensing gasoline, oil, and grease, including grease guns. Establishments primarily engaged in the manufacture of pumps and pumping equipment for general industrial use are classified in industry 3561.

The total value of shipments for establishments classified in the Measuring and Dispensing Pumps industry amounted to $376 million in 1977, an increase of 62 percent from 1972. The value of shipments of products classified as primary to the industry was $266 million, an increase of 45 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were gasoline dispensing pumps, for which shipments increased 54 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $218 million in 1977, was 63

percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.4 thousand employees, an increase of 3 percent from 1972. The leading States in employment were Indiana, Missouri, North Carolina, and Illinois, accounting for approximately 55 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of machines and equipment, not elsewhere classified, for use in service industries, such as floor sanding machines, industrial vacuum cleaners, scrubbing machines, commercial cooking and food warming equipment, and commercial dishwashing machines. Establishments primarily engaged in the manufacture of household electrical appliances are classified in industry group 363.

The total value of shipments for establishments classified in the Service Industry Machinery, N.E.C. industry amounted to $1,772 million in 1977, an increase of 94 percent from 1972. The value of shipments of products classified as primary to the industry was $1,688 million, an increase of 95 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were commercial cooking and food warming equipment, for which shipments increased 70 percent, and commercial vacuum cleaners, for which shipments increased 74 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $946 million in 1977, was 88 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.1 thousand employees, an increase of 32 percent from 1972. The leading States in employment were Illinois, California, and Minnesota, accounting for approximately 35 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3592, CARBURETORS, PISTONS, RINGS, AND VALVES

This industry comprises establishments primarily engaged in the manufacture of carburetors, pistons, piston rings, and valves. Establishments primarily engaged in the manufacture of metallic packing are classified in industry 3293; and those primarily engaged in the manufacture of machine repair and equipment parts (except electric), on a job or order basis for others in industry 3599.

The total value of shipments for establishments classified in the Carburetors, Pistons, Rings, and Valves industry amounted to $1,401 million in 1977, an increase of 88 percent from 1972. The value of shipments of products classified as primary to the industry was $1,298 million, an increase of 64 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were carburetors, for which shipments increased 81 percent, and pistons and piston rings, for which shipments increased 62 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $925 million in 1977, was 85 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.2 thousand employees, an increase of 21 percent from 1972. The leading States in employment were New York, Michigan, Missouri, and Indiana, accounting for approximately 55 percent of the industry's 1977 employment. Data for New York and Indiana have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3599, MACHINERY, EXCEPT ELECTRICAL, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of machinery and parts except electrical, not elsewhere classified, such as amusement park equipment, pneumatic and hydraulic cylinders, and flexible metal hose and tubing. This industry also includes establishments primarily engaged in producing or repairing machine and equipment parts, not elsewhere classified, on a job or order basis for others. Establishments primarily engaged in the manufacture of metallic packing, formerly classified in this industry, are classified in industry 3293.

The total value of shipments for establishments classified in the Machinery, Except Electric, N.E.C. industry amounted to $6,607 million in 1977, an increase of 80 percent from 1972. The value of shipments of products classified as primary to the industry was $6,441 million, an increase of 92 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Receipts for machine shop jobwork accounted for $1,836 billion of this change, increasing from $1,426 million in 1972 to $3,262 million in 1977. Value added by manufacture, at $4,435 million in 1977, was 76 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 190.4 thousand employees, an increase of 21 percent from 1972. The leading States in employment were California, Illinois, Ohio, and Texas, accounting for approximately 40 percent of the industry's 1977 employment. Data for Illinois and Ohio have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 23 percent of total value of shipments.

Table 1a. Historical Statisitcs for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3581, AUTOMATIC MERCHANDISING MACHINES																
1977 Census.	106	113	35	8.8	103.2	6.4	12.4	65.1	211.7	214.5	410.1	7.9	(NA)	109.6	94	93
1976 ASM....	(NA)	(NA)	(NA)	8.2	88.9	5.8	10.8	54.0	155.7	184.7	337.6	7.3	91.4	96.0	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	7.1	66.1	4.4	8.1	35.3	107.4	144.1	264.3	7.0	91.8	86.9	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	10.5	93.5	7.4	13.9	57.1	188.1	190.2	370.7	8.9	89.2	124.4	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	10.7	89.7	8.1	15.1	58.8	169.0	154.2	325.2	9.3	78.9	97.2	(NA)	(NA)
1972 Census.	116	125	48	10.5	83.6	7.3	13.9	52.1	183.4	152.3	324.4	5.6	89.0	89.0	94	92
1971 ASM....	(NA)	(NA)	(NA)	10.5	81.8	7.6	13.8	50.2	165.2	142.9	300.7	3.5	77.3	83.0	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	9.0	61.7	6.3	11.4	38.2	129.4	117.0	247.3	3.5	70.4	61.8	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	11.1	71.5	8.4	15.8	47.6	150.2	133.4	285.1	3.3	72.3	68.3	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	10.4	62.4	8.1	15.9	42.1	125.0	131.1	271.3	4.3	65.9	63.0	(NA)	(NA)
1967 Census.	143	150	56	10.0	59.2	7.8	14.8	39.6	140.8	122.5	248.0	5.5	63.0	77.8	97	88
1966 ASM....	(NA)	(NA)	(NA)	11.9	73.6	8.7	17.7	45.1	150.1	134.9	279.5	4.8	(NA)	65.2	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	11.6	67.1	8.5	16.7	42.7	136.5	122.3	252.1	3.7	(NA)	61.8	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	11.7	66.4	8.7	17.0	42.3	136.2	123.0	256.2	3.1	74.7	56.7	(NA)	(NA)
1963 Census.	148	158	68	11.7	64.8	8.4	16.8	40.4	121.4	116.9	238.0	3.5	71.3	54.0	81	90
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT[3]																
1977 Census.	90	94	38	4.6	54.4	3.3	6.4	35.6	117.3	104.9	220.3	2.2	(NA)	53.5	90	81
1976 ASM....	(NA)	(NA)	(NA)	3.4	40.9	2.4	5.2	27.2	92.5	84.2	178.6	1.5	32.9	51.5	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	3.4	36.1	2.3	4.6	22.9	83.8	71.8	160.5	1.3	(S)	48.2	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	4.5	46.3	3.3	7.2	30.7	92.1	89.5	172.1	4.6	(S)	63.1	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	5.1	44.4	3.5	7.1	26.5	101.6	89.3	188.5	1.3	(S)	45.6	(NA)	(NA)
1972 Census.	100	107	47	4.8	42.2	3.4	6.7	25.4	88.2	68.9	157.0	1.2	(S)	36.6	91	70
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT																
1977 Census.	725	860	457	138.6	1 849.7	104.4	205.4	1 270.2	4 469.2	5 235.7	9 638.1	233.0	(NA)	1 632.7	89	95
1976 ASM....	(NA)	(NA)	(NA)	131.3	1 653.1	97.3	189.7	1 106.2	4 097.2	4 589.7	8 572.4	144.3	2 141.9	1 533.1	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	118.5	1 359.6	84.1	158.8	859.4	2 999.3	3 554.8	6 765.9	154.5	2 033.3	1 350.7	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	156.8	1 637.5	116.8	223.7	1 089.7	3 727.0	4 371.9	7 972.6	227.0	2 128.1	1 794.5	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	165.2	1 646.4	122.8	241.8	1 105.2	3 896.0	4 338.7	8 089.2	213.4	1 954.0	1 621.7	(NA)	(NA)
1972 Census.	655	774	443	150.8	1 442.1	112.6	223.5	978.6	3 517.4	3 714.9	7 083.5	201.2	1 801.3	1 330.6	(NA)	(NA)
1967 Census.	(NA)	717	(NA)	104.0	699.5	76.3	154.5	460.8	1 612.2	1 858.0	3 408.1	124.4	(NA)	(S)	(NA)	(NA)
1963 Census.	(NA)	752	(NA)	80.9	481.7	56.6	112.7	300.5	986.3	1 202.6	2 167.6	36.2	(NA)	(NA)	(NA)	(NA)
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS																
1977 Census.	57	59	30	7.4	97.3	5.1	9.7	57.9	218.0	158.2	375.7	6.2	(NA)	97.9	61	82
1976 ASM....	(NA)	(NA)	(NA)	7.4	89.6	5.2	10.1	53.7	220.3	135.1	347.6	7.4	92.5	92.5	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	7.5	85.5	5.2	10.1	50.4	198.2	132.2	330.9	7.1	92.4	88.2	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	7.7	79.3	5.6	10.6	50.4	176.4	128.1	297.4	5.2	86.9	88.3	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	7.0	68.1	4.8	9.6	41.9	130.7	94.5	222.2	4.2	76.6	69.5	(NA)	(NA)
1972 Census.	54	57	33	7.2	67.3	5.0	9.9	38.7	134.1	101.1	232.3	4.5	74.8	64.2	71	87
1971 ASM....	(NA)	(NA)	(NA)	6.4	56.5	4.4	8.7	30.5	114.6	88.3	202.7	2.5	61.7	58.9	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	7.2	57.8	5.0	9.7	31.5	122.0	92.0	209.0	4.3	61.9	58.3	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	6.9	55.4	4.8	9.8	30.3	119.5	87.8	204.7	4.3	56.2	49.4	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	6.6	47.1	4.5	9.1	26.7	104.5	86.3	188.0	6.6	54.0	44.7	(NA)	(NA)
1967 Census.	46	49	23	6.4	45.6	4.3	8.9	25.1	94.8	81.0	174.7	3.8	47.8	43.7	71	80
1966 ASM....	(NA)	(NA)	(NA)	8.1	57.6	5.4	11.2	31.6	121.8	96.0	206.9	11.0	(NA)	49.6	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	8.1	55.9	5.2	10.7	29.0	113.2	90.4	199.7	6.0	(NA)	47.8	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	7.3	46.6	4.9	9.7	26.0	102.8	79.0	177.9	2.8	43.4	42.2	(NA)	(NA)
1963 Census.	42	43	27	6.8	41.7	4.5	8.9	23.2	91.7	71.2	159.5	2.6	40.7	37.2	73	85
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.																
1977 Census.	959	988	277	32.1	411.8	19.2	36.9	208.6	946.4	849.3	1 771.8	38.5	(NA)	365.9	91	90
1976 ASM....	(NA)	(NA)	(NA)	22.5	279.1	14.0	27.0	142.3	648.1	593.6	1 224.0	22.7	190.1	254.0	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	21.2	243.3	12.7	23.8	120.8	504.0	522.7	1 045.3	16.8	168.9	210.4	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	22.1	235.5	14.0	27.0	122.6	531.7	476.3	993.6	27.9	178.1	230.9	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	25.0	249.5	15.2	30.5	129.5	548.5	468.2	993.5	17.8	166.3	213.6	(NA)	(NA)
1972 Census.	666	706	232	24.4	228.8	15.0	29.3	115.9	503.6	422.8	913.8	15.7	158.5	184.4	90	87
1971 ASM....	(NA)	(NA)	(NA)	22.8	199.7	13.6	26.4	96.2	429.4	395.7	823.2	24.9	155.3	156.7	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	22.8	186.7	13.3	26.4	93.8	394.0	335.5	726.7	17.1	138.2	147.2	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	25.2	201.6	16.7	34.2	110.5	427.2	346.2	765.8	15.2	115.9	147.0	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	22.9	170.6	14.8	29.3	91.6	358.9	318.6	675.6	11.5	104.1	123.0	(NA)	(NA)

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.--Con.															
1967 Census.	554	575	187	20.9	150.7	13.5	27.2	82.4	313.3	290.7	598.1	10.6	95.2	114.7	89	88
1966 ASM....	(NA)	(NA)	(NA)	20.2	145.5	12.6	27.3	77.3	302.1	284.2	570.8	8.6	(NA)	106.2	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	17.1	119.2	10.9	23.2	63.3	246.2	233.8	473.3	7.8	(NA)	82.6	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	14.6	97.0	9.1	18.9	50.2	197.7	183.6	380.9	5.2	75.2	67.9	(NA)	(NA)
1963 Census.	496	506	142	15.3	96.8	9.5	19.4	51.3	192.4	185.1	378.3	5.3	70.3	68.7	86	84
	INDUSTRY 3592, CARBURETORS, PISTONS, RINGS, AND VALVES[3]															
1977 Census.	132	151	84	32.2	508.5	26.0	52.5	388.5	924.9	503.8	1 400.6	79.9	(NA)	240.0	82	87
1976 ASM....	(NA)	(NA)	(NA)	31.1	453.2	24.9	49.8	347.2	841.4	444.4	1 256.3	38.6	484.1	204.1	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	29.6	374.4	23.6	44.4	272.9	637.9	365.4	1 009.0	30.6	463.1	173.3	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	31.9	378.8	25.8	50.8	284.1	625.0	368.5	977.3	29.7	428.6	175.3	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	32.5	371.2	26.5	54.0	284.5	669.5	359.6	1 017.6	73.5	396.7	152.6	(NA)	(NA)
1972 Census.	98	113	72	26.7	272.3	21.6	43.5	207.1	500.0	262.3	744.3	27.1	284.6	112.4	81	74
	INDUSTRY 3599, MACHINERY, EXCEPT ELECTRICAL, N.E.C.[3]															
1977 Census.	19 136	19 247	2 499	190.5	2 472.2	150.7	298.0	1 716.9	4 439.1	2 234.2	6 612.7	340.7	(NA)	822.5	96	94
1976 ASM....	(NA)	(NA)	(NA)	177.9	2 076.3	142.8	283.3	1 477.5	3 894.1	1 798.2	5 674.2	263.5	2 214.3	673.7	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	185.7	2 000.5	149.4	294.2	1 433.6	3 639.4	1 763.9	5 420.2	305.7	2 199.6	647.9	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	190.2	1 936.1	155.8	312.3	1 416.6	3 632.0	1 775.5	5 319.9	215.9	1 874.0	621.2	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	167.9	1 589.8	138.0	272.6	1 158.4	2 933.0	1 361.4	4 235.4	144.2	1 669.1	475.5	(NA)	(NA)
1972 Census.	16 217	16 287	1 946	157.8	1 424.7	127.2	248.4	1 021.3	2 515.5	1 175.1	3 665.2	122.2	1 588.7	416.2	93	94

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus, these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3581, AUTOMATIC MERCHANDISING MACHINES										
1977 Census..	11 740	(NA)	73	1 924	5.26	52	77	(NA)	24 086	48	17.10
1976 ASM.....	10 841	11 146	70	1 862	5.00	54	81	27	18 987	57	14.41
1975 ASM.....	9 309	12 929	61	1 840	4.35	54	79	34	15 126	61	13.25
1974 ASM.....	8 904	8 495	70	1 878	4.10	51	76	24	17 914	49	13.53
1973 ASM.....	8 383	7 373	75	1 864	3.89	47	75	24	15 794	53	11.19
1972 Census..	7 961	8 476	69	1 904	3.74	46	72	27	17 466	45	13.19
1971 ASM.....	7 790	7 361	72	1 815	3.63	47	74	25	15 733	49	11.97
1970 ASM.....	6 855	7 822	70	1 809	3.35	47	72	28	14 377	47	11.35
1969 ASM.....	6 441	6 513	75	1 880	3.01	46	71	25	13 531	47	9.50
1968 ASM.....	6 000	6 336	77	1 962	2.64	48	71	24	12 019	49	7.86
1967 Census..	5 920	6 300	78	1 897	2.67	49	73	25	14 080	42	9.51
1966 ASM.....	6 185	(NA)	73	2 034	2.54	48	74	(NA)	12 508	49	8.48
1965 ASM.....	5 784	(NA)	73	1 964	2.55	48	75	(NA)	11 767	49	8.17
1964 ASM.....	5 675	6 384	74	1 954	2.48	48	73	29	11 641	48	8.01
1963 Census..	5 538	6 094	71	2 000	2.40	49	76	29	10 376	53	7.22
	INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT										
1977 Census..	11 744	(NA)	71	1 928	5.60	47	72	(NA)	25 315	46	18.47
1976 ASM.....	12 029	9 676	70	2 166	5.23	47	70	18	27 205	44	17.78
1975 ASM.....	10 617	(S)	67	2 000	4.97	44	67	(S)	24 647	43	18.21
1974 ASM.....	10 288	(S)	73	2 181	4.26	52	78	(S)	20 466	50	12.79
1973 ASM.....	8 705	(S)	68	2 028	3.73	47	70	(S)	19 921	43	14.30
1972 Census..	8 791	(S)	70	1 970	3.79	43	70	(S)	18 375	47	13.16
	INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT										
1977 Census..	13 343	(NA)	75	1 967	6.18	54	73	(NA)	32 239	41	21.76
1976 ASM.....	12 590	16 313	74	1 949	5.83	53	72	24	31 204	40	21.59
1975 ASM.....	11 473	17 158	70	1 888	5.41	52	72	30	25 310	45	18.88
1974 ASM.....	10 443	13 572	74	1 915	4.87	54	75	26	23 769	43	16.66
1973 ASM.....	9 966	11 828	74	1 969	4.57	53	73	24	23 583	42	16.11
1972 Census..	9 562	11 944	74	1 984	4.37	52	72	25	23 324	40	15.73
1967 Census..	6 725	(NA)	73	2 024	2.98	54	75	(NA)	15 501	43	10.43
1963 Census..	5 954	(NA)	69	1 991	2.66	55	77	(NA)	12 191	48	8.75
	INDUSTRY 3586, MEASURING AND DISPENSING PUMPS										
1977 Census..	13 195	(NA)	69	1 895	5.95	42	68	(NA)	29 560	44	22.39
1976 ASM.....	12 108	12 500	70	1 942	5.31	38	64	26	29 770	40	21.81
1975 ASM.....	11 400	12 320	69	1 942	4.99	39	65	27	26 426	43	19.62
1974 ASM.....	10 298	11 285	72	1 892	4.75	43	69	29	22 909	44	16.64
1973 ASM.....	9 728	10 942	68	2 000	4.36	42	73	34	18 671	52	13.61
1972 Census..	9 347	10 388	69	1 980	3.90	43	72	32	18 625	50	13.54
1971 ASM.....	8 828	9 640	68	1 977	3.50	43	71	30	17 906	49	13.17
1970 ASM.....	8 027	8 597	69	1 940	3.24	44	71	29	16 944	47	12.57
1969 ASM.....	8 028	8 144	69	2 041	3.09	42	69	27	17 318	46	12.19
1968 ASM.....	7 136	8 181	68	2 022	2.93	45	70	28	15 833	45	11.48
1967 Census..	7 125	7 468	67	2 069	2.82	46	72	27	14 812	48	10.65
1966 ASM.....	7 111	(NA)	66	2 074	2.82	46	74	(NA)	15 037	47	10.87
1965 ASM.....	6 901	(NA)	64	2 057	2.71	45	73	(NA)	13 975	49	10.57
1964 ASM.....	6 383	5 945	67	1 979	2.68	44	70	24	14 082	45	10.59
1963 Census..	6 132	5 985	66	1 977	2.60	44	70	25	13 485	45	10.30
	INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.										
1977 Census..	12 841	(NA)	59	1 924	5.65	47	71	(NA)	29 514	43	25.66
1976 ASM.....	12 404	8 448	62	1 928	5.27	48	71	15	28 804	43	24.00
1975 ASM.....	11 476	7 966	59	1 874	5.07	50	73	16	23 773	48	21.17
1974 ASM.....	10 656	8 058	63	1 928	4.54	47	71	17	24 058	44	19.69
1973 ASM.....	9 980	6 652	60	2 006	4.24	47	72	16	21 940	45	17.98
1972 Census..	9 377	6 495	61	1 953	3.95	46	71	17	20 639	45	17.18
1971 ASM.....	8 758	6 811	59	1 941	3.64	48	72	18	18 833	46	16.26
1970 ASM.....	8 188	6 061	58	1 984	3.55	46	71	19	17 280	47	14.92
1969 ASM.....	8 000	4 599	66	2 047	3.23	45	71	15	16 952	47	12.49
1968 ASM.....	7 449	4 545	64	1 979	3.12	47	72	15	15 672	47	12.24

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.--Con.										
1967 Census..	7 210	4 555	64	2 014	3.02	48	73	15	14 990	48	11.51
1966 ASM.....	7 202	(NA)	62	2 166	2.83	49	75	(NA)	14 955	48	11.06
1965 ASM.....	6 970	(NA)	63	2 128	2.72	49	74	(NA)	14 397	48	10.61
1964 ASM.....	6 643	5 150	62	2 076	2.65	48	73	19	13 541	49	10.46
1963 Census..	6 326	4 594	62	2 042	2.64	48	74	18	12 575	50	9.91
	INDUSTRY 3592, CARBURETORS, PISTONS, RINGS, AND VALUES[3]										
1977 Census..	15 791	(NA)	80	2 015	7.40	35	72	(NA)	28 718	54	17.63
1976 ASM.....	14 572	15 565	80	2 000	6.97	35	71	38	27 054	53	16.89
1975 ASM.....	12 648	15 645	79	1 881	6.14	36	73	45	21 550	58	14.36
1974 ASM.....	11 874	13 435	80	1 968	5.59	37	76	43	19 592	60	12.30
1973 ASM.....	11 421	12 206	81	2 037	5.26	35	71	38	20 600	55	12.39
1972 Census..	10 198	10 659	80	2 013	4.76	35	71	38	18 726	54	11.49
	INDUSTRY 3599, MACHINERY, EXCEPT ELECTRICAL, N.E.C.										
1977 Census..	12 976	(NA)	79	1 976	5.76	33	71	(NA)	23 300	55	14.89
1976 ASM.....	11 671	12 446	80	1 983	5.21	31	68	39	21 889	53	13.74
1975 ASM.....	10 772	11 844	80	1 969	4.87	32	69	40	19 598	54	12.37
1974 ASM.....	10 179	9 852	81	2 004	4.53	33	69	35	19 095	53	11.62
1973 ASM.....	9 468	9 941	82	1 975	4.24	32	69	39	17 468	54	10.75
1972 Census..	9 028	10 067	80	1 952	4.11	32	70	43	15 941	56	10.12

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3581, AUTOMATIC MERCHANDISING MACHINES														
United States	-	**113**	**35**	**5.8**	**103.2**	**6.4**	**12.4**	**65.1**	**211.7**	**214.5**	**410.1**	**7.9**	**10.5**	**183.4**
New England Division:														
Connecticut	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	12	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	E1	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	E2	13	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	16.9
West North Central Division:														
Minnesota	E0	5	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	20.1
Iowa	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
West Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	E1	7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	16	4	0.7	8.4	0.6	1.2	6.1	11.5	16.4	26.1	(D)	(NA)	(D)
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT														
United States	-	**94**	**38**	**4.6**	**54.4**	**3.3**	**6.4**	**35.6**	**117.3**	**104.9**	**220.3**	**2.2**	**4.6**	**60.2**
New England Division:														
Massachusetts	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	8	3	0.2	3.5	0.1	0.3	1.6	6.4	9.9	16.5	(D)	(NA)	(D)
New Jersey	-	5	3	0.2	2.0	0.1	0.2	1.4	4.9	4.8	10.0	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	14	5	0.3	3.7	0.2	0.4	2.5	7.6	7.2	14.9	(Z)	(NA)	(D)
West North Central Division:														
Iowa	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	9	5	0.6	6.3	0.4	0.8	3.6	15.4	13.9	28.6	(D)	(NA)	(D)
Pacific Division:														
California	-	9	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT														
United States	-	**860**	**457**	**138.6**	**1 849.7**	**104.4**	**205.4**	**1 270.2**	**4 469.2**	**5 235.7**	**9 638.1**	**233.0**	**150.8**	**3 517.4**
New England Division:														
Massachusetts	-	19	10	0.8	10.2	0.6	1.0	5.3	18.5	18.1	35.1	0.5	0.9	20.7
Connecticut	-	12	5	0.7	9.2	0.4	0.8	5.0	23.2	18.7	41.7	0.8	(NA)	(D)
Middle Atlantic Division:														
New York	-	69	29	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	17.1	655.0
New Jersey	-	35	19	6.0	67.7	4.3	7.8	43.2	116.5	202.3	336.2	2.8	6.9	155.9
Pennsylvania	-	53	32	7.4	112.4	4.8	13.4	54.3	151.8	204.1	350.3	10.0	8.1	118.9
East North Central Division:														
Ohio	-	53	34	20.9	325.4	16.8	33.8	254.3	693.9	861.1	1 542.4	63.9	30.9	795.5
Indiana	-	18	11	5.2	71.3	3.9	7.8	46.2	164.5	193.3	355.0	9.7	4.7	88.3
Illinois	-	43	31	7.0	85.6	5.5	10.0	60.6	193.6	247.4	435.3	8.1	8.2	170.4
Michigan	-	41	28	7.5	102.7	5.6	10.4	69.9	212.7	362.0	569.8	5.7	9.5	259.3
Wisconsin	-	28	17	6.3	83.5	3.6	7.4	43.5	158.9	145.6	303.3	12.6	5.3	82.6
West North Central Division:														
Minnesota	-	30	16	4.4	58.8	3.0	5.3	34.7	160.4	151.3	310.1	3.1	3.9	102 6
Iowa	-	7	6	1.4	18.1	1.0	1.6	11.1	40.5	41.3	83.8	0.8	(NA)	(D)
Missouri	-	21	13	4.3	50.3	2.8	5.7	30.1	90.4	109.4	193.9	3.1	5.6	79.4
Kansas	-	11	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT—Con.														
South Atlantic Division:														
Maryland	-	14	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.5	44.9
Virginia	-	13	8	2.0	25.3	1.3	2.5	13.2	35.0	57.6	92.9	(D)	(NA)	(D)
North Carolina	-	8	5	0.4	6.4	0.3	0.5	3.7	12.3	14.1	25.9	(D)	1.1	12.7
South Carolina	-	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	9	7	0.8	9.7	0.7	1.1	5.2	24.1	19.4	43.1	0.5	1.0	15.8
Florida	-	38	10	0.7	7.3	0.5	0.9	4.2	18.4	19.8	37.9	1.4	0.5	9.4
East South Central Division:														
Kentucky	-	9	8	7.9	99.8	6.6	12.6	76.3	215.3	292.1	503.0	12.1	8.2	154.6
Tennessee	-	26	19	8.6	85.3	6.9	13.2	63.3	319.1	389.2	706.1	16.3	7.1	137.4
Alabama	-	8	7	1.6	16.2	1.2	2.4	10.6	31.0	50.2	78.1	1.0	(NA)	(D)
Mississippi	-	7	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	11	7	3.2	37.3	2.6	5.4	28.2	93.2	136.3	222.7	5.8	1.6	35.5
Oklahoma	E1	17	7	1.3	16.7	1.0	2.1	11.2	34.0	53.6	87.5	1.4	(NA)	(D)
Texas	-	102	46	10.9	118.8	8.1	14.5	75.1	348.7	443.3	777.3	10.9	8.9	215.0
Mountain Division:														
Colorado	-	7	3	0.2	3.3	0.2	0.3	1.8	8.6	10.4	18.8	(D)	(NA)	(D)
Arizona	-	11	4	1.2	11.6	0.9	1.8	8.1	17.2	25.8	42.4	(D)	(NA)	(D)
Utah	-	5	4	0.3	3.6	0.2	0.4	2.4	11.9	8.3	19.3	0.3	(NA)	(D)
Pacific Division:														
Washington	-	9	4	0.4	5.2	0.2	0.5	3.6	9.5	12.1	22.3	0.3	(NA)	(NA)
Oregon	E2	9	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E1	89	32	4.3	58.2	3.2	6.2	38.7	108.5	176.7	283.9	5.7	5.5	98.0
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS														
United States	-	59	30	7.4	97.3	5.1	9.7	57.9	218.0	158.2	375.7	6.2	7.2	134.1
New England Division:														
Massachusetts	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
Pennsylvania	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Indiana	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	3	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E2	11	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.														
United States	-	988	277	32.1	411.8	19.2	36.9	208.6	946.4	849.3	1 771.8	38.5	24.4	503.6
New England Division:														
Vermont	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	31	9	1.2	16.2	0.7	1.2	8.7	35.2	23.7	58.6	1.0	1.0	20.6
Connecticut	-	14	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E3	64	6	0.7	8.3	0.5	0.9	4.9	20.8	17.4	38.0	(D)	1.4	25.6
New Jersey	-	45	13	1.3	16.4	0.6	1.2	7.0	34.0	36.6	69.3	0.7	1.0	17.4
Pennsylvania	-	42	17	2.3	26.9	1.4	2.8	15.5	56.4	63.8	117.8	1.8	1.6	32.4
East North Central Division:														
Ohio	-	66	21	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.5	37.0
Indiana	-	30	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	81	39	5.1	73.9	2.8	5.4	33.1	162.8	158.2	317.7	6.6	4.6	103.9
Michigan	-	49	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	37	11	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	26	7	2.6	36.2	1.3	2.5	15.1	86.3	57.0	142.2	(D)	2.0	48.5
Iowa	-	15	5	0.4	3.9	0.2	0.4	1.7	10.2	8.4	18.6	0.4	(NA)	(D)
Missouri	E2	23	9	0.7	7.5	0.4	0.8	4.3	19.8	14.1	33.6	0.2	0.6	6.9

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.—Con.														
South Atlantic Division:														
Maryland	–	8	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	E2	8	4	0.3	3.2	0.2	0.5	1.9	6.0	6.2	12.3	(D)	(NA)	(NA)
North Carolina	–	13	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	–	8	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	E1	17	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.5
Florida	E1	30	9	0.6	7.8	0.5	0.9	4.6	16.3	11.1	26.5	0.9	0.6	9.9
East South Central Division:														
Kentucky	–	6	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	–	13	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	–	9	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	E1	8	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	–	11	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	–	57	15	1.3	15.8	0.9	1.6	8.6	28.4	34.4	66.2	1.7	(NA)	(D)
Mountain Division:														
Colorado	E1	20	5	0.3	3.6	0.2	0.3	1.6	8.4	10.0	17.9	0.4	(NA)	(NA)
Pacific Division:														
Oregon	–	13	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	–	159	40	4.0	49.4	2.2	4.5	25.8	106.1	102.2	202.5	3.6	(NA)	(D)
INDUSTRY 3592, CARBURETORS, PISTONS, RINGS, AND VALVES														
United States	–	**151**	**84**	**32.2**	**508.5**	**26.0**	**52.5**	**388.5**	**924.9**	**503.8**	**1 400.6**	**79.9**	**26.7**	**500.0**
Middle Atlantic Division:														
New York	–	7	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	–	7	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	13.3
East North Central Division:														
Ohio	–	8	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	13.4
Indiana	–	7	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	–	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	–	15	9	4.9	84.4	3.7	7.8	61.2	136.7	70.4	204.0	13.0	(NA)	(D)
Wisconsin	–	5	4	1.0	10.8	0.8	1.5	8.3	29.9	21.8	51.2	1.1	(NA)	(D)
West North Central Division:														
Minnesota	–	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	–	7	6	4.4	65.8	3.4	6.3	48.0	88.7	48.0	136.3	3.5	(NA)	(D)
Nebraska	–	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	–	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	–	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	–	4	3	2.5	26.3	2.2	4.0	23.0	52.0	16.9	66.1	1.1	(NA)	(D)
Tennessee	–	5	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	–	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	–	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E1	9	5	0.2	2.7	0.2	0.3	1.6	5.3	2.3	7.6	0.2	(NA)	(D)
Mountain Division:														
Colorado	–	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	35	16	1.2	15.4	1.1	2.1	11.8	25.6	18.9	44.3	1.5	(NA)	(D)
INDUSTRY 3599, MACHINERY, EXCEPT ELECTRICAL, N.E.C.														
United States	E2	**19 247**	**2 499**	**190.4**	**2 470.6**	**150.7**	**297.9**	**1 716.6**	**4 434.8**	**2 234.2**	**6 607.0**	**340.8**	**157.8**	**2 515.5**
New England Division:														
Maine	E1	55	7	0.4	5.4	0.3	0.6	3.5	9.7	5.4	14.7	1.1	0.2	2.7
New Hampshire	E2	102	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	7.8
Vermont	E2	28	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.0
Massachusetts	E2	615	90	6.5	87.4	5.1	10.5	59.8	143.2	62.6	203.0	10.7	(NA)	(D)
Rhode Island	E3	106	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	11.6
Connecticut	E2	520	78	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E2	1 101	117	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	E2	775	83	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	E1	981	158	10.6	138.9	8.5	16.5	97.1	249.3	134.5	381.5	15.1	9.4	144.8
East North Central Division:														
Ohio	E1	1 323	189	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	16.1	281.1
Indiana	E2	433	62	4.5	57.6	3.6	6.9	39.8	102.7	58.5	161.2	8.4	(NA)	(D)
Illinois	E2	1 152	201	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	E1	1 076	186	13.1	177.3	10.2	20.6	121.9	330.9	165.3	493.4	24.0	(NA)	(D)
Wisconsin	E1	448	95	6.0	76.5	4.8	9.2	52.4	136.4	73.6	207.3	10.1	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3599, MACHINERY, EXCEPT ELECTRICAL, N.E.C.—Con.														
West North Central Division:														
Minnesota	E1	400	81	5.7	73.8	4.6	9.2	53.0	131.4	67.5	196.5	11.9	(NA)	(D)
Iowa	-	137	21	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	24.3
Missouri	E2	353	45	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	E2	78	4	0.4	4.9	0.3	0.6	3.6	10.5	6.5	16.9	0.6	(NA)	(D)
Kansas	E1	199	28	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.8	24.8
South Atlantic Division:														
Delaware	E3	30	4	0.2	2.7	0.2	0.3	1.9	4.6	1.7	6.2	0.3	(NA)	(D)
Maryland	E1	176	32	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	E2	205	27	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	24.6
West Virginia	E4	111	22	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	18.1
North Carolina	E3	359	30	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	E3	157	11	0.9	9.9	0.7	1.3	6.9	17.0	9.7	26.4	2.0	0.8	12.2
Georgia	E4	255	27	1.8	22.5	1.5	2.8	15.2	41.7	19.6	60.2	4.8	1.4	20.6
Florida	E4	428	35	2.8	34.3	2.3	4.4	24.5	60.7	25.9	85.9	4.4	(NA)	(D)
East South Central Division:														
Kentucky	E2	154	21	1.7	17.9	1.4	2.5	12.4	32.2	15.3	47.0	(D)	(NA)	(D)
Tennessee	E2	225	27	2.2	27.7	1.8	3.6	19.7	50.1	25.9	74.9	4.0	(NA)	(D)
Alabama	E2	257	30	2.3	25.2	1.9	3.6	18.2	48.3	29.0	76.1	3.1	(NA)	(D)
Mississippi	E3	96	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	E4	129	7	0.6	7.1	0.5	1.0	5.0	13.5	7.2	20.7	0.9	0.5	7.7
Louisiana	E1	224	41	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	E3	282	31	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	E2	1 401	181	13.5	176.9	10.7	21.6	124.5	324.3	162.9	480.9	22.0	(NA)	(D)
Mountain Division:														
Idaho	E2	66	5	0.3	4.2	0.3	0.5	3.1	7.5	5.6	13.3	0.6	(NA)	(D)
Wyoming	E1	27	4	0.4	4.7	0.3	0.7	3.6	8.8	7.2	16.2	0.6	(NA)	(D)
Colorado	E3	236	24	2.2	25.6	1.8	3.4	18.5	43.6	24.0	67.4	3.0	(NA)	(D)
New Mexico	E2	101	8	0.7	8.2	0.6	1.0	5.8	14.0	8.3	22.2	1.3	0.4	6.2
Arizona	E1	195	30	2.4	31.6	1.9	3.8	22.3	50.5	18.8	68.8	4.1	2.0	28.2
Utah	E2	98	16	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	5.8
Nevada	E3	37	2	0.2	2.3	0.2	0.3	1.6	4.4	2.4	6.7	0.6	(NA)	(NA)
Pacific Division:														
Washington	E2	307	40	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	E2	249	31	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E2	3 427	327	27.1	364.0	21.4	42.8	251.2	663.2	307.8	961.9	48.6	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Automatic merchandising machines (SIC 3581)	Commercial laundry equipment (SIC 3582)	Refrigeration and heating equipment (SIC 3585)	Measuring and dispensing pumps (SIC 3586)	Service industry machinery, n.e.c. (SIC 3589)	Carburetors, pistons, rings, and valves (SIC 3592)	Machinery, except electrical, n.e.c. (SIC 3599)
Primary product specialization ratio[1]	percent	94	90	89	51	91	82	96
Coverage ratio[2]	do	93	81	95	82	90	87	94
All establishments	number	113	94	860	59	988	151	19 247
With 1 to 19 employees	do	78	56	403	29	711	67	16 748
With 20 to 99 employees	do	15	29	236	15	199	43	2 327
With 100 employees or more	do	20	9	221	15	78	41	172
All employees, average for year	1,000	8.8	4.6	138.6	7.4	32.1	32.2	190.4
Payroll for year, all employees	mil. dol.	103.2	54.4	1 849.7	97.3	411.8	508.5	2 470.6
Production workers:								
Average for year	1,000	6.4	3.3	104.4	5.1	19.2	26.0	150.7
March	do	5.9	3.2	105.5	5.1	19.0	25.5	147.4
May	do	6.4	3.3	104.3	5.2	18.9	26.0	149.6
August	do	6.5	3.3	100.7	5.1	19.3	25.8	151.1
November	do	6.8	3.4	106.9	5.2	19.5	26.8	154.1
Hours	millions	12.4	6.4	205.4	9.7	36.9	52.5	297.9
January to March	do	2.8	1.5	50.6	2.4	9.0	12.9	73.3
April to June	do	3.1	1.6	53.2	2.5	9.0	13.2	73.7
July to September	do	3.2	1.6	49.4	2.3	9.2	13.1	73.3
October to December	do	3.3	1.7	52.1	2.5	9.7	13.3	77.6
Wages	mil. dol.	65.1	35.6	1 270.2	57.9	208.6	388.5	1 716.6
Cost of materials, etc.	do	214.5	104.9	5 235.7	158.2	849.3	503.8	2 232.6
Materials, parts, containers, etc., consumed	do	197.7	96.1	4 755.7	142.3	752.0	451.9	1 777.0
Resales	do	10.9	6.2	345.4	9.0	51.5	17.8	61.2
Fuels consumed	do	1.6	0.8	44.0	1.5	4.2	8.7	29.4
Purchased electric energy	do	2.3	1.1	63.2	2.3	7.3	21.0	64.5
Contract work	do	2.0	0.7	27.4	3.1	34.4	4.3	300.6
Value of shipments, including resales	do	410.1	220.3	9 638.1	375.7	1 771.8	1 400.6	6 607.0
Value of resales	do	14.8	9.1	446.7	13.3	81.6	20.9	93.8
Value added by manufacture	do	211.7	117.3	4 469.2	218.0	946.4	924.9	4 434.8
Manufacturers' inventories:								
Beginning of year	do	83.2	49.1	1 507.9	89.5	324.4	202.7	736.6
Finished products	do	22.0	9.0	568.3	23.7	73.8	54.2	129.1
Work in process	do	26.7	13.3	414.3	44.4	113.8	107.4	351.2
Materials, supplies, fuel, etc.	do	34.5	26.9	525.3	21.4	136.7	41.1	256.3
End of year	do	109.6	53.5	1 632.7	97.9	365.9	240.0	821.6
Finished products	do	24.1	8.6	600.7	23.4	79.8	62.3	139.2
Work in process	do	40.6	15.6	448.7	45.1	131.7	127.3	401.5
Materials, supplies, fuel, etc.	do	44.9	29.3	583.3	29.3	154.3	50.4	280.9
Capital expenditures for plant and equipment	do	10.4	2.5	243.3	6.8	43.1	85.8	388.3
New capital expenditures	do	7.9	2.2	233.0	6.2	36.5	79.9	340.8
New buildings and other structures	do	1.6	0.4	42.2	1.1	9.8	16.7	68.4
New machinery and equipment	do	6.3	1.9	190.8	5.2	28.7	63.3	272.4
Used capital expenditures	do	2.5	0.3	10.2	0.6	4.6	5.9	47.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Automatic merchandising machines (SIC 3581)		Commercial laundry equipment (SIC 3582)		Refrigeration and heating equipment (SIC 3585)		Measuring and dispensing pumps (SIC 3586)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(0.5)	31	(0.2)	39	11.8	4	0.6	7
Response coverage ratio[2] (percent)	54	(X)	51	(X)	70	(X)	44	(X)
Machinery	(1.4)	21	(0.2)	40	33.7	1	2.7	8
Response coverage ratio[2] (percent)	53	(X)	57	(X)	69	(X)	47	(X)
Cost of purchased communication services	(1.2)	19	(1.0)	32	18.9	4	1.4	9
Response coverage ratio[2] (percent)	54	(X)	62	(X)	69	(X)	44	(X)
Rental payments	(3.0)	16	(2.3)	26	50.8	2	1.5	7
Buildings and other structures	(2.3)	22	(2.0)	31	17.9	6	(0.2)	40
Machinery and equipment	0.7	8	(0.3)	50	32.8	1	1.3	10
Supplemental labor costs	18.5	2	9.0	6	422.4	1	18.5	3
Legal costs	8.4	2	4.5	6	148.4	1	8.4	8
Voluntary costs	10.1	3	4.5	10	274.0	1	10.1	6
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	28.1	4	(9.9)	16	705.0	1	28.6	11
New capital expenditures	(1.8)	25	(0.2)	37	39.6	3	(0.9)	27
Used capital expenditures	-	(X)	0.2	5	1.6	1	(0.5)	42
Retirements	(0.1)	37	(0.3)	15	11.6	2	(0.2)	36
End of year	29.8	4	(10.0)	15	734.6	1	29.9	11
Machinery and equipment:								
Beginning of year	(60.3)	23	(23.9)	15	1,455.7	1	54.5	9
New capital expenditures	(8.6)	30	(1.6)	32	189.9	2	5.4	6
Automobiles, trucks, etc., for highway use[3]	(0.1)	(A)	(0.5)	(A)	(4.9)	(A)	(0.4)	(A)
Computers and peripheral data processing equipment[3]	(Z)	(A)	-	(X)	(5.1)	(A)	(0.6)	(A)
All other[3]	(4.7)	(A)	(0.6)	(A)	164.3	12	(3.5)	(A)
New machinery and equipment, n.s.k.[4]	(3.8)	(A)	(0.4)	(A)	(15.6)	(A)	(0.8)	(A)
Used capital expenditures	2.5	1	(0.3)	46	6.1	4	(0.7)	70
Retirements	(1.6)	16	(4.6)	68	75.1	1	4.5	8
End of year	(69.8)	22	21.2	14	1,576.6	1	56.1	9
Total gross value of depreciable assets:								
Beginning of year	88.3	14	33.8	12	2,160.7	1	83.1	10
New capital expenditures	(10.5)	25	(1.8)	28	229.6	2	6.3	7
Used capital expenditures	2.5	1	(0.4)	29	7.7	3	(1.2)	59
Retirements	(1.7)	16	(4.9)	64	86.7	1	4.7	6
End of year	(99.6)	15	31.1	12	2,311.2	1	86.0	10
Depreciation charges during 1977	(6.9)	18	(2.5)	24	155.2	1	5.9	8
Buildings and other structures	(1.2)	16	(0.8)	57	26.1	3	1.0	13
Machinery and equipment	(5.7)	21	(1.7)	27	129.1	1	4.9	7

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Service industry machinery, n.e.c. (SIC 3589)		Carburetors, pistons, rings, and valves (SIC 3592)		Machinery, except electrical, n.e.c. (SIC 3599)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(3.1)	22	2.2	1	9.7	10
Response coverage ratio[2] (percent)	61	(X)	60	(X)	48	(X)
Machinery	(4.9)	18	16.1	2	27.1	8
Response coverage ratio[2] (percent)	64	(X)	60	(X)	52	(X)
Cost of purchased communication services	(9.3)	15	2.7	5	18.6	7
Response coverage ratio[2] (percent)	67	(X)	66	(X)	51	(X)
Rental payments	15.4	12	5.8	5	111.9	7
Buildings and other structures	10.7	13	(1.7)	16	69.7	7
Machinery and equipment	4.7	11	4.1	2	42.2	12
Supplemental labor costs	68.6	2	130.4	1	309.7	2
Legal costs	30.6	2	39.1	1	181.9	2
Voluntary costs	38.0	3	91.3	1	127.9	4
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	95.4	8	102.3	2	460.7	3
New capital expenditures	7.3	14	16.1	2	(45.4)	15
Used capital expenditures	(3.1)	32	1.1	1	(7.4)	21
Retirements	(2.6)	30	0.3	10	(14.6)	20
End of year	103.3	8	119.1	1	498.8	3
Machinery and equipment:						
Beginning of year	160.6	10	366.9	1	1,872.8	1
New capital expenditures	25.3	9	61.8	1	280.5	6
Automobiles, trucks, etc., for highway use[3]	(2.1)	(A)	(0.8)	(A)	(14.5)	(A)
Computers and peripheral data processing equipment[3]	(1.5)	(A)	(2.5)	(A)	(2.9)	(A)
All other[3]	(17.9)	(A)	(56.8)	35	156.6	13
New machinery and equipment, n.s.k.[4]	(3.9)	(A)	(1.8)	(A)	(106.5)	19
Used capital expenditures	(0.8)	43	5.1	6	52.7	12
Retirements	8.8	12	14.0	1	(88.8)	17
End of year	178.0	9	419.8	1	2,117.2	1
Total gross value of depreciable assets:						
Beginning of year	256.0	7	469.2	1	2,333.7	1
New capital expenditures	32.7	10	77.9	1	325.9	6
Used capital expenditures	(4.0)	27	6.1	5	60.0	11
Retirements	11.4	14	14.3	1	(103.2)	15
End of year	281.2	6	538.9	1	2,616.5	1
Depreciation charges during 1977	21.9	9	30.7	2	227.7	4
Buildings and other structures	5.7	11	3.7	2	22.5	7
Machinery and equipment	16.2	13	27.1	2	205.3	5

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3581, AUTOMATIC MERCHANDISING MACHINES												
Total	-	**113**	**8.8**	**103.2**	**6.4**	**12.4**	**65.1**	**211.7**	**214.5**	**410.1**	**7.9**	**109.6**
Establishments with an average of—												
1 to 4 employees	E8	45	0.1	0.9	0.1	0.1	0.6	0.6	1.6	3.2	0.1	0.8
5 to 9 employees	E8	19	0.1	1.4	0.1	0.2	0.8	2.2	2.6	4.8	0.1	1.2
10 to 19 employees	E5	14	0.2	2.1	0.1	0.3	1.2	4.2	4.3	8.2	0.4	2.0
20 to 49 employees	E1	10	0.3	3.0	0.2	0.4	1.7	5.7	4.5	10.2	0.2	3.1
50 to 99 employees	-	5	0.4	4.0	0.2	0.5	2.1	5.8	5.4	10.2	0.1	4.4
100 to 249 employees	-	6	1.1	13.7	0.7	1.4	8.5	30.8	35.4	62.0	1.8	14.6
250 to 499 employees	-	10	(6.6)	(78.1)	(4.9)	(9.5)	(50.2)	(162.4)	(160.8)	(311.6)	(5.2)	(83.5)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	57	0.3	3.0	0.2	0.4	1.8	5.2	5.9	11.1	0.2	2.9
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT												
Total	-	**94**	**4.6**	**54.4**	**3.3**	**6.4**	**35.6**	**117.3**	**104.9**	**220.3**	**2.2**	**53.5**
Establishments with an average of—												
1 to 4 employees	E8	34	(Z)	0.6	(Z)	0.1	0.4	1.4	1.1	2.4	(Z)	0.6
5 to 9 employees	E9	11	0.1	0.9	(Z)	0.1	0.5	1.7	1.4	3.0	(Z)	0.9
10 to 19 employees	-	11	0.2	1.9	0.1	0.2	1.2	4.2	5.3	9.5	(Z)	1.5
20 to 49 employees	-	14	0.5	5.1	0.3	0.6	3.4	10.8	11.6	22.3	0.1	5.6
50 to 99 employees	-	15	1.1	13.1	0.8	1.6	8.2	25.7	29.2	55.8	(2.1)	11.5
100 to 249 employees	-	5	0.9	10.5	0.6	1.1	7.3	26.1	24.4	49.3	(D)	11.5
250 to 499 employees	-	3	(1.9)	(22.5)	(1.3)	(2.6)	(14.6)	(47.5)	(31.8)	(77.9)	(D)	(21.9)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	38	0.1	1.2	0.1	0.1	0.8	2.6	2.2	4.7	(Z)	1.3
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT												
Total	-	**860**	**138.6**	**1 849.7**	**104.4**	**205.4**	**1 270.2**	**4 469.2**	**5 235.7**	**9 638.1**	**233.0**	**1 632.7**
Establishments with an average of—												
1 to 4 employees	E8	199	0.3	4.2	0.3	0.5	2.8	6.9	10.1	19.3	0.3	3.5
5 to 9 employees	E8	106	0.7	8.9	0.5	1.0	5.9	18.7	21.0	39.7	0.9	7.2
10 to 19 employees	E5	97	1.3	17.5	1.0	1.9	11.1	35.9	39.5	75.4	1.5	16.4
20 to 49 employees	E1	143	4.9	57.2	3.6	7.2	35.9	131.0	128.5	253.2	6.3	47.8
50 to 99 employees	-	93	6.6	78.8	4.8	9.4	48.3	193.6	198.6	383.7	14.0	73.9
100 to 249 employees	-	102	16.2	186.2	11.8	22.6	117.6	442.1	527.1	954.9	15.6	206.0
250 to 499 employees	-	57	20.2	237.1	14.5	31.8	148.3	469.3	661.7	1 126.4	21.7	285.4
500 to 999 employees	-	32	21.0	252.8	15.3	28.4	163.5	615.6	940.1	1 536.8	22.0	331.4
1,000 to 2,499 employees	-	24	37.1	481.3	29.0	54.9	353.2	1 179.4	1 662.7	2 849.5	56.7	422.5
2,500 employees or more	-	7	30.3	525.8	23.4	47.8	383.6	1 376.6	1 046.4	2 399.2	94.0	238.8
Covered by administrative records[2]	E0	283	1.7	21.5	1.3	2.4	14.3	45.7	50.5	96.2	1.7	17.6
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS												
Total	-	**59**	**7.4**	**97.3**	**5.1**	**9.7**	**57.9**	**218.0**	**158.2**	**375.7**	**6.2**	**97.9**
Establishments with an average of—												
1 to 4 employees	E8	17	(Z)	0.4	(Z)	(Z)	0.2	0.6	0.6	1.5	(Z)	0.4
5 to 9 employees	E8	7	(Z)	0.5	(Z)	0.1	0.3	1.1	0.8	1.9	(Z)	0.5
10 to 19 employees	E6	5	0.1	0.9	0.1	0.1	0.6	2.0	1.4	3.5	0.1	0.8
20 to 49 employees	-	11	0.3	3.7	0.2	0.4	2.1	6.7	6.0	12.5	0.4	2.2
50 to 99 employees	-	4	0.3	4.0	0.2	0.4	2.5	9.2	9.2	18.0	0.5	3.0
100 to 249 employees	-	7	1.3	15.9	1.0	1.9	10.7	48.2	30.5	77.7	(5.2)	16.4
250 to 499 employees	-	3	0.9	12.7	0.6	1.0	6.4	18.2	17.7	38.2	(D)	12.5
500 to 999 employees	-	4	(4.4)	(59.3)	(3.0)	(5.8)	(35.1)	(132.0)	(92.0)	(222.4)	(D)	(62.0)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	21	0.1	1.4	0.1	0.2	0.9	3.3	2.3	5.6	0.1	1.5
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.												
Total	-	**988**	**32.1**	**411.8**	**19.2**	**36.9**	**208.8**	**946.4**	**849.3**	**1 771.8**	**38.5**	**365.9**
Establishments with an average of—												
1 to 4 employees	E6	310	0.6	7.3	0.4	0.7	3.5	13.2	16.4	33.8	0.8	6.8
5 to 9 employees	E2	204	1.4	17.9	0.9	1.7	8.7	33.7	30.2	63.5	1.2	10.8
10 to 19 employees	E1	197	2.6	29.1	1.6	3.0	14.5	57.5	53.5	110.4	2.3	17.6
20 to 49 employees	E1	137	4.3	50.1	2.8	5.3	27.3	111.2	102.6	211.6	3.8	38.8
50 to 99 employees	-	62	4.2	52.3	2.5	4.7	25.9	126.4	122.4	241.7	6.1	49.3
100 to 249 employees	-	56	8.7	116.4	5.3	10.6	59.9	281.3	261.0	534.2	9.9	115.1
250 to 499 employees	-	13	4.3	54.0	2.9	5.5	31.8	137.5	117.2	249.3	4.6	58.4
500 to 999 employees	-	9	6.1	84.8	2.9	5.4	37.1	185.5	146.2	327.3	9.7	69.1
Covered by administrative records[2]	E0	256	0.7	8.1	0.5	0.8	3.9	18.8	17.2	36.0	1.0	7.2

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3592, CARBURETORS, PISTONS, RINGS, AND VALVES												
Total	-	**151**	**32.2**	**506.5**	**26.0**	**52.5**	**388.5**	**924.9**	**503.8**	**1 400.6**	**79.9**	**240.0**
Establishments with an average of—												
1 to 4 employees	E7	36	0.1	0.7	0.1	0.1	0.5	1.3	0.7	2.0	0.1	0.3
5 to 9 employees	E8	15	0.1	1.5	0.1	0.2	1.1	2.7	1.4	4.1	0.2	0.7
10 to 19 employees	E6	16	0.2	3.1	0.2	0.3	2.1	5.6	2.8	8.4	0.2	1.3
20 to 49 employees	E1	34	1.1	13.5	0.9	1.7	9.1	27.2	15.9	42.5	2.2	8.9
50 to 99 employees	E1	9	0.6	6.9	0.5	1.0	4.8	10.5	7.1	17.6	0.5	3.5
100 to 249 employees	-	8	1.6	20.8	1.3	2.6	16.5	46.6	29.0	73.0	2.0	17.0
250 to 499 employees	-	20	7.4	98.3	6.2	12.7	76.4	205.4	123.4	321.9	10.1	62.5
500 to 999 employees	-	4	2.5	37.6	2.0	3.8	28.5	71.3	44.0	110.4	3.2	28.7
1,000 to 2,499 employees	-	7	(18.6)	(326.2)	(14.9)	(30.0)	(249.6)	(554.1)	(279.3)	(820.7)	(61.6)	(117.1)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	53	0.3	4.9	0.3	0.6	3.6	9.0	4.8	13.8	0.4	2.2
INDUSTRY 3599, MACHINERY, EXCEPT ELECTRICAL, N.E.C.												
Total	**E2**	**19 247**	**190.4**	**2 470.6**	**150.7**	**297.9**	**1 716.6**	**4 434.8**	**2 232.6**	**6 607.0**	**340.8**	**821.6**
Establishments with an average of—												
1 to 4 employees	E8	10 813	17.3	217.2	16.8	28.3	151.7	454.9	211.5	666.9	37.7	71.3
5 to 9 employees	E4	3 191	21.2	265.3	16.6	33.5	184.9	481.0	230.9	707.9	34.6	71.2
10 to 19 employees	E1	2 744	37.3	461.3	28.8	56.4	321.6	798.2	384.6	1 172.6	71.3	111.2
20 to 49 employees	E1	1 844	54.7	713.9	43.1	86.8	501.2	1 240.8	611.0	1 833.4	87.9	201.7
50 to 99 employees	E1	483	31.8	422.9	24.7	50.7	296.0	743.2	392.6	1 121.2	55.6	149.1
100 to 249 employees	-	158	22.7	312.6	17.2	35.3	214.2	577.6	328.2	898.4	47.5	164.9
250 to 499 employees	-	12	(5.3)	(77.5)	(3.5)	(7.0)	(46.9)	(139.1)	(73.6)	(206.6)	(6.2)	(52.2)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	10 822	23.3	288.5	21.4	37.8	200.6	576.9	268.8	845.7	45.1	92.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3581	**Automatic merchandising machines:**										
	Entire industry	113	8.8	103.2	6.4	12.4	65.1	211.7	214.5	410.1	7.9
	Establishments with 75 percent specialization or more	106	7.4	89.3	5.4	10.6	55.5	188.0	183.4	357.3	(D)
35811	Automatic merchandising machines:										
	Establishments with this product class primary	30	7.0	83.3	5.2	10.1	53.0	170.4	176.9	334.2	5.6
	Establishments with 75 percent specialization or more in class	22	5.6	68.9	4.1	8.2	43.1	144.8	144.8	279.5	(D)
35812	Parts for automatic merchandising machines:										
	Establishments with this product class primary	13	1.4	15.4	1.0	1.7	9.5	34.1	28.8	59.1	1.8
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3582	**Commercial laundry equipment:**										
	Entire industry	94	4.6	54.4	3.3	6.4	35.6	117.3	104.9	220.3	2.2
	Establishments with 75 percent specialization or more	88	3.9	45.4	2.7	5.4	28.9	96.1	87.0	181.7	(D)
3585	**Refrigeration and heating equipment:**										
	Entire industry	860	138.6	1 849.7	104.4	205.4	1 270.2	4 469.2	5 235.7	9 638.1	233.0
	Establishments with 75 percent specialization or more	783	116.9	1 523.8	86.8	170.2	1 020.2	3 432.4	4 428.3	7 798.3	186.5
35851	Heat transfer equipment:										
	Establishments with this product class primary	102	37.4	556.4	27.3	52.9	377.7	1 578.6	1 415.4	2 973.3	64.9
	Establishments with 75 percent specialization or more in class	80	16.7	208.4	12.1	22.7	131.0	507.5	590.7	1 083.1	18.8
35852	Unitary air conditioners (including heat pumps):										
	Establishments with this product class primary	64	33.9	428.3	25.4	48.9	278.4	1 000.5	1 521.4	2 527.0	48.8
	Establishments with 75 percent specialization or more in class	37	13.9	166.4	10.6	19.8	113.5	462.2	671.3	1 139.9	16.0
35853	Commercial refrigeration equipment:										
	Establishments with this product class primary	123	16.6	199.0	11.6	21.9	123.5	441.2	440.9	865.9	11.9
	Establishments with 75 percent specialization or more in class	104	13.8	162.9	9.7	18.1	100.8	363.0	364.3	712.0	10.4
35854	Compressors and compressor units:										
	Establishments with this product class primary	28	23.8	351.2	19.7	38.4	281.5	739.7	914.8	1 633.1	75.8
	Establishments with 75 percent specialization or more in class	22	20.1	302.3	16.6	32.2	243.2	659.9	808.2	1 447.3	(D)
35855	Condensing units, all refrigerants:										
	Establishments with this product class primary	8	1.0	10.1	0.8	1.5	7.2	28.0	53.6	83.0	2.5
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35856	Room air conditioners and dehumidifiers:										
	Establishments with this product class primary	21	9.1	103.8	6.7	12.3	69.8	226.3	412.3	637.2	7.2
	Establishments with 75 percent specialization or more in class	11	2.7	31.0	2.2	4.2	21.7	83.0	164.8	241.3	2.3
35857	Other refrigeration and air conditioning equipment, n.e.c.:										
	Establishments with this product class primary	65	9.6	112.7	7.3	18.7	74.8	266.9	264.8	520.6	12.9
	Establishments with 75 percent specialization or more in class	49	7.6	89.2	5.8	15.8	59.8	212.0	194.7	397.8	7.7
35858	Warm air furnaces and parts, nonelectric:										
	Establishments with this product class primary	21	2.3	25.4	1.8	3.6	15.8	55.3	79.1	133.8	1.5
	Establishments with 75 percent specialization or more in class	16	1.7	17.8	1.4	2.7	12.5	33.4	54.3	86.9	1.2
3586	**Measuring and dispensing pumps:**										
	Entire industry	59	7.4	97.3	5.1	9.7	57.9	218.0	158.2	375.7	6.2
	Establishments with 75 percent specialization or more	46	2.4	30.2	1.7	3.3	18.9	61.3	63.1	121.2	1.8
3589	**Service industry machinery, n.e.c.:**										
	Entire industry	988	32.1	411.8	19.2	36.9	208.6	946.4	849.3	1 771.8	38.5
	Establishments with 75 percent specialization or more	902	26.3	341.8	15.6	30.0	173.5	787.8	673.7	1 438.7	29.4
35891	Commercial cooking and food warming equipment:										
	Establishments with this product class primary	96	8.4	107.0	5.5	10.7	61.9	238.0	198.7	427.8	7.4
	Establishments with 75 percent specialization or more in class	80	7.0	88.9	4.6	8.8	52.6	202.2	160.3	354.1	5.3
35892	Service industry machines and parts:										
	Establishments with this product class primary	438	19.1	253.9	10.6	20.6	120.3	593.1	533.4	1 109.3	25.2
	Establishments with 75 percent specialization or more in class	380	14.5	194.3	7.9	15.1	91.1	446.7	390.5	826.0	16.6
35893	Commercial and industrial vacuum cleaners:										
	Establishments with this product class primary	37	1.8	18.2	1.2	2.2	10.0	46.7	53.6	98.7	2.1
	Establishments with 75 percent specialization or more in class	27	0.7	7.6	0.4	0.8	3.8	21.3	28.7	49.5	0.4
3592	**Carburetors, pistons, rings, and valves:**										
	Entire industry	151	32.2	508.5	26.0	52.5	388.5	924.9	503.8	1 400.6	79.9
	Establishments with 75 percent specialization or more	132	19.4	283.1	15.8	30.7	217.4	482.0	259.3	729.2	26.2
35921	Carburetors, new and rebuilt:										
	Establishments with this product class primary	23	14.7	232.0	12.1	23.8	177.7	429.5	232.0	648.0	(D)
	Establishments with 75 percent specialization or more in class	16	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
35922	Pistons and piston rings, engine:										
	Establishments with this product class primary	45	12.3	182.4	9.7	19.7	137.7	309.2	160.8	458.9	22.1
	Establishments with 75 percent specialization or more in class	33	7.9	124.1	6.2	12.6	93.1	197.7	103.0	292.2	17.7
35923	Valves, intake and exhaust, engine:										
	Establishments with this product class primary	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3599	**Machinery, except electrical, n.e.c.:**										
	Entire industry	19 247	190.4	2 470.6	150.7	297.9	1 716.6	4 434.8	2 232.6	6 607.0	340.8
	Establishments with 75 percent specialization or more	18 695	175.0	2 266.5	139.0	274.1	1 577.4	4 059.8	2 049.5	6 054.9	309.0
35992	Pneumatic and hydraulic cylinders:										
	Establishments with this product class primary	119	9.6	124.5	7.0	13.8	80.8	255.6	164.3	416.9	18.0
	Establishments with 75 percent specialization or more in class	97	7.7	101.4	5.5	11.0	65.6	202.5	137.6	340.7	14.9
35994	Miscellaneous machinery products, n.e.c.:										
	Establishments with this product class primary	367	14.3	195.2	10.5	21.2	126.8	375.9	240.9	605.7	45.0
	Establishments with 75 percent specialization or more in class	311	11.3	153.8	8.4	17.2	100.3	296.9	198.7	484.3	31 0
35995	Receipts for machine shop jobwork:										
	Establishments with this product class primary	5 060	103.9	1 392.6	80.8	164.0	979.4	2 371.5	1 161.6	3 488 7	163 2
	Establishments with 75 percent specialization or more in class	4 739	93.1	1 247.7	72.7	147.1	880.2	2 108.8	1 026 9	3 094.3	147.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3581	Automatic merchandising machines.....1977..	410.1	367.7	23.7	18.7	94	396.2	367.7	28.5	93
	1972..	324.4	293.2	17.8	13.4	94	306.3	293.2	13.1	96
	1967..	248.0	230.5	6.9	10.7	97	261.2	230.5	30.7	88
3582	Commercial laundry equipment.....1977..	220.3	188.4	20.1	11.8	90	233.6	188.4	45.2	81
	1972..	157.0	130.6	13.4	13.0	91	185.3	130.6	54.7	70
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3585	Refrigeration and heating equipment.....1977..	9,638.1	8,035.6	959.4	643.1	89	8,501.7	8,035.6	466.1	95
	1972..	7,083.5	5,635.3	1,053.3	394.9	84	6,232.1	5,635.3	596.8	90
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3586	Measuring and dispensing pumps.....1977..	375.7	217.0	137.0	21.7	61	265.6	217.0	48.6	82
	1972..	232.3	151.8	62.0	18.5	71	183.4	151.8	31.6	83
	1967..	174.7	111.5	44.5	18.7	71	139.3	111.5	27.8	80
3589	Service industry machinery, n.e.c.....1977..	1,771.8	1,515.7	153.6	102.5	91	1,687.6	1,515.7	171.9	90
	1972..	913.8	748.1	86.5	79.2	90	864.4	748.1	116.3	87
	1967..	598.1	475.5	58.6	64.0	89	539.8	475.5	64.3	88
3592	Carburetors, pistons, rings, and valves.....1977..	1,400.6	1,128.7	243.4	28.5	82	1,298.5	1,128.7	169.8	87
	1972..	744.3	589.4	141.8	13.1	81	791.9	589.4	202.5	74
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3599	Machinery, except electrical, n.e.c.....1977..	6,607.0	6,034.7	235.1	337.2	96	6,441.0	6,034.7	406.3	94
	1972..	3,665.2	3,153.8	239.4	272.0	93	3,363.3	3,153.8	209.5	94
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

n.e.c. Not elsewhere classified.
[1]Data are not available because industry was created in 1972.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Automatic merchandising machines (SIC 3581)	Commercial laundry equipment (SIC 3582)	Refrigeration and heating equipment (SIC 3585)	Measuring and dispensing pumps (SIC 3586)	Service industry machinery, n.e.c. (SIC 3589)	Carburetors, pistons, rings, and valves (SIC 3592)	Machinery, except electrical, n.e.c. (SIC 3599)	Other industries
	Total	(X)	410.1	220.3	9,638.1	375.7	1,771.8	1,400.6	6,607.0	(X)
	Primary products	(X)	367.7	188.4	8,035.6	217.0	1,515.7	1,128.7	6,034.7	(X)
	Secondary products	(X)	23.7	20.1	959.4	137.0	153.6	243.4	235.1	(X)
	Miscellaneous receipts	(X)	18.7	11.8	643.1	21.7	102.5	28.5	337.2	(X)
3581-	Automatic merchandising machines	396.2	(D)	(D)	(D)	-	(D)	-	-	18.6
35811	Automatic merchandising machines	294.9	(D)	(D)	(D)	-	(D)	-	-	(D)
35812	Parts for automatic merchandising machines	84.3	(D)	(D)	-	-	-	-	-	(D)
35810	Automatic merchandising machines, n.s.k	17.0	16.9	-	-	-	-	-	-	.1
35820	Commercial laundry and dry cleaning equipment	233.6	-	188.4	-	-	(D)	-	(D)	44.3
3585-	Refrigeration and heating equipment	8,501.7	(D)	(D)	8,035.6	-	(D)	-	(D)	449.8
35851	Heat transfer equipment	2,251.2	-	(D)	2,155.4	-	-	-	(D)	91.9
35852	Unitary air conditioners (including heat pumps)	1,673.0	-	-	6,653.4	-	-	-	-	19.6
35853	Commercial refrigeration equipment	759.4	(D)	-	729.4	-	(D)	-	-	22.4
35854	Compressors and compressor units	1,580.3	-	-	1,537.0	-	-	-	(D)	(D)
35855	Condensing units, all refrigerants	175.6	-	-	169.7	-	-	-	(D)	(D)
35856	Room air conditioners and dehumidifiers	720.4	-	-	549.3	-	(D)	-	-	(D)
35857	Other refrigeration and air conditioning equipment, n.e.c	712.2	-	-	625.2	-	(D)	-	-	(D)
35858	Warm air furnaces and parts, nonelectric	378.4	-	-	367.4	-	-	-	-	11.0
35850	Refrigeration and heating equipment, n.s.k	251.3	-	-	248.9	-	-	-	-	2.4
35860	Measuring, dispensing, and lubricating pumps	265.6	-	-	(D)	217.0	-	-	-	(D)
3589-	Service industry machinery, n.e.c	1,687.6	-	1.7	6.1	-	1,515.7	-	4.8	159.3
35891	Commercial cooking and food warming equipment	386.0	-	(D)	6.1	-	351.3	-	(D)	28.3
35892	Service industry machines and parts	1,059.2	-	1.4	-	-	929.8	-	4.3	123.6
35893	Commercial and industrial vacuum cleaners	109.4	-	(D)	-	-	103.2	-	(D)	6.1
35890	Service industry machinery, n.e.c., n.s.k	132.9	-	-	-	-	131.3	-	.3	1.3
3592-	Carburetors, pistons, rings, and valves	1,298.5	-	-	-	-	-	1,128.7	5.2	164.7
35921	Carburetors, new and rebuilt	642.0	-	-	-	-	-	507.4	(D)	(D)
35922	Pistons and piston rings, engine	372.2	-	-	-	-	-	367.9	(D)	(D)
35923	Valves, intake and exhaust, engine	257.5	-	-	-	-	-	227.7	3.9	25.9
35920	Carburetors, pistons, rings, and valves, n.s.k	26.9	-	-	-	-	-	25.8	.3	.8
3599-	Machinery, except electrical, n.e.c	6,441.8	-	(D)	(D)	-	3.6	(D)	6,034.7	350.1
35992	Pneumatic and hydraulic cylinders	456.1	-	-	(D)	-	-	(D)	370.5	(D)
35994	Miscellaneous machinery products, n.e.c	676.9	-	-	(D)	-	.1	(D)	549.2	(D)
35995	Receipts for machine shop jobwork	3,338.1	-	(D)	(D)	-	3.5	(D)	3,158.4	174.1
35990	Machinery, except electrical, n.e.c., n.s.k	1,969.9	-	-	.1	-	-	-	1,956.4	13.3
	Other shipments by 4-digit product group:									
2099-	Food preparations, n.e.c	(X)	-	-	-	-	(D)	-	-	(X)
2394-	Canvas and related products	(X)	-	-	(D)	-	-	-	(D)	(X)
2542-	Metal partitions and fixtures	(X)	-	(D)	(D)	-	(D)	-	-	(X)
2599-	Furniture and fixtures, n.e.c	(X)	-	(D)	(D)	-	(D)	-	(D)	(X)
2841-	Soap and other detergents	(X)	-	-	-	-	(D)	-	-	(X)
2842-	Polishes and sanitation goods	(X)	-	-	-	-	(D)	-	-	(X)
2869-	Industrial organic chemicals, n.e.c	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3069-	Fabricated rubber products, n.e.c	(X)	-	-	(D)	-	-	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3231-	Products of purchased glass	(X)	-	(D)	-	-	-	-	-	(X)
3292-	Asbestos products	(X)	-	-	-	-	-	-	(D)	(X)
3293-	Gaskets, packing, and sealing devices	(X)	-	-	-	-	-	(D)	(D)	(X)
3321-	Gray iron castings	(X)	-	(D)	(D)	-	-	(D)	4.2	(X)
3324-	Steel investment castings	(X)	-	-	-	-	-	-	(D)	(X)
3351-	Copper rolling and drawing	(X)	-	-	(D)	-	-	-	-	(X)
3361-	Aluminum castings	(X)	-	-	-	-	-	9.3	(D)	(X)
3423-	Hand and edge tools, n.e.c	(X)	-	-	(D)	(D)	(D)	-	(D)	(X)
3429-	Hardware, n.e.c	(X)	-	-	(D)	(D)	-	(D)	(D)	(X)
3432-	Plumbing fittings and brass goods	(X)	-	-	(D)	-	-	-	(D)	(X)
3433-	Heating equipment, except electric	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3443-	Fabricated plate work (boiler shops)	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3444-	Sheet metal work	(X)	-	-	(D)	-	(D)	-	5.2	(X)
3451-	Screw machine products	(X)	-	-	-	(D)	(D)	-	(D)	(X)
3462-	Iron and steel forgings	(X)	-	-	-	-	-	(D)	-	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	-	(D)	-	(D)	-	(D)	(X)
3494-	Valves and pipe fittings	(X)	-	-	(D)	(D)	(D)	-	(D)	(X)
3496-	Miscellaneous fabricated wire products	(X)	(D)	-	-	-	(D)	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis—Shipments by Product Class and Industry: 1977**—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Automatic merchandising machines (SIC 3581)	Commercial laundry equipment (SIC 3582)	Refrigeration and heating equipment (SIC 3585)	Measuring and dispensing pumps (SIC 3586)	Service industry machinery, n.e.c. (SIC 3589)	Carburetors, pistons, rings, and valves (SIC 3592)	Machinery, except electrical, n.e.c. (SIC 3599)	Other industries
	Other shipments by 4-digit product group--Con.									
3499-	Fabricated metal products, n.e.c.	(X)	(D)	-	(D)	-	(D)	-	(D)	(X)
3523-	Farm machinery and equipment	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3531-	Construction machinery	(X)	-	-	(D)	-	-	-	(D)	(X)
3533-	Oil field machinery	(X)	-	-	-	-	-	-	(D)	(X)
3534-	Elevators and moving stairways	(X)	-	-	-	(D)	-	-	(D)	(X)
3537-	Industrial trucks and tractors	(X)	-	-	-	-	(D)	-	(D)	(X)
3541-	Machine tools, metal cutting types	(X)	-	-	(D)	(D)	(D)	-	(D)	(X)
3542-	Machine tools, metal forming types	(X)	-	-	-	-	-	-	(D)	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	-	-	-	(D)	(D)	(D)	(X)
3545-	Machine tool accessories	(X)	-	-	-	(D)	-	-	4.1	(X)
3549-	Metalworking machinery, n.e.c.	(X)	-	-	(D)	(D)	-	-	(D)	(X)
3551-	Food products machinery	(X)	-	(D)	(D)	-	(D)	-	(D)	(X)
3559-	Special industry machinery, n.e.c.	(X)	-	-	(D)	(D)	(D)	(D)	(D)	(X)
3561-	Pumps and pumping equipment	(X)	-	-	(D)	(D)	5.5	-	5.2	(X)
3562-	Ball and roller bearings	(X)	-	-	-	-	-	(D)	(D)	(X)
3563-	Air and gas compressors	(X)	-	-	(D)	(D)	(D)	-	(D)	(X)
3564-	Blowers and fans	(X)	-	(D)	24.6	-	(D)	-	(D)	(X)
3565-	Industrial patterns	(X)	-	-	-	-	-	(D)	(D)	(X)
3566-	Speed changers, drives, and gears	(X)	-	-	-	-	(D)	(D)	(D)	(X)
3568-	Power transmission equipment, n.e.c.	(X)	-	-	-	-	-	(D)	(D)	(X)
3569-	General industrial machinery, n.e.c.	(X)	-	-	(D)	(D)	9.7	(D)	22.4	(X)
3574-	Calculating and accounting machines	(X)	(D)	-	-	-	-	-	-	(X)
3621-	Motors and generators	(X)	-	-	(D)	-	(D)	-	-	(X)
3622-	Industrial controls	(X)	-	-	-	-	-	-	(D)	(X)
3631-	Household cooking equipment	(X)	-	-	49.1	-	-	-	(D)	(X)
3632-	Household refrigerators and freezers	(X)	-	-	(D)	-	-	-	-	(X)
3633-	Household laundry equipment	(X)	-	(D)	-	-	-	-	-	(X)
3634-	Electric housewares and fans	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3635-	Household vacuum cleaners	(X)	-	-	(D)	-	-	-	-	(X)
3639-	Household appliances, n.e.c.	(X)	-	-	(D)	(D)	.2	-	-	(X)
3648-	Lighting equipment, n.e.c.	(X)	-	-	(D)	-	-	-	-	(X)
3651-	Radio and TV receiving sets	(X)	-	-	(D)	-	-	-	(D)	(X)
3662-	Radio and TV communication equipment	(X)	-	-	-	(D)	-	-	(D)	(X)
3679-	Electronic components, n.e.c.	(X)	-	-	-	(D)	-	-	3.8	(X)
3694-	Engine electrical equipment	(X)	-	-	-	-	-	(D)	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c.	(X)	-	-	46.1	-	(D)	-	(D)	(X)
3714-	Motor vehicle parts and accessories	(X)	-	-	(D)	-	(D)	135.9	(D)	(X)
3728-	Aircraft equipment, n.e.c.	(X)	-	-	-	-	-	(D)	(D)	(X)
3824-	Fluid meters and counting devices	(X)	-	-	-	(D)	-	-	-	(X)
3861-	Photographic equipment and supplies	(X)	-	-	-	-	-	-	(D)	(X)
3999-	Manufacturing industries, n.e.c.	(X)	(D)	(D)	-	(D)	-	-	(D)	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	(D)	(D)	16.9	(D)	12.1	.3	190.7	(X)
99980 13	Sales of scrap and refuse	(X)	(Z)	(D)	35.4	(X)	1.7	5.2	6.7	(X)
99980 31	Receipts for installation or construction	(X)	-	-	(D)	(D)	(Z)	-	1.4	(X)
99980 41	Receipts for research and developmental work	(X)	(X)	(X)	(D)	(D)	(X)	-	6.6	(X)
99980 61	Receipts for repair work	(X)	(Z)	1.0	(D)	(D)	2.8	(D)	22.4	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	1.3	74.9	.4	4.3	(D)	15.5	(X)
99989 00	Resales	(X)	14.8	9.1	446.7	13.3	81.6	20.9	93.8	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3581-	3651 Radio and television receiving sets	(D)
3582-	3633 Household laundry equipment	(D)
3585-	3433 Heating equipment, except electric	35.7
	3443 Fabricated plate work (boiler shops)	(D)
	3494 Valves and pipe fittings	11.6
	3519 Internal combustion engines, n.e.c	(D)
	3523 Farm machinery and equipment	(D)
	3551 Food products machinery	(D)
	3559 Special industry machinery, n.e.c	(D)
	3563 Air and gas compressors	(D)
	3568 Power transmission equipment, n.e.c	(D)
	3621 Motors and generators	(D)
	3631 Household cooking equipment	(D)
	3632 Household refrigerators and freezers	(D)
	3633 Household laundry equipment	(D)
	3694 Engine electrical equipment	(D)
	3714 Motor vehicle parts and accessories	36.4
3586-	3546 Power driven hand tools	(D)
	3561 Pumps and pumping equipment	(D)
	3824 Fluid meters and counting devices	(D)
3589-	2842 Polishes and sanitation goods	(D)
	3079 Miscellaneous plastics products	(D)
	3536 Hoists, cranes, and monorails	(D)
	3564 Blowers and fans	20.3
3589-	3569 General industrial machinery, n.e.c	(D)
	3631 Household cooking equipment	(D)
	3639 Household appliances, n.e.c	(D)
	3711 Motor vehicles and car bodies	(D)
	3823 Process control instruments	(D)
3592-	3325 Steel foundries, n.e.c	(D)
	3561 Pumps and pumping equipment	(D)
	3694 Engine electrical equipment	(D)
	3714 Motor vehicle parts and accessories	(D)
3599-	3443 Fabricated plate work (boiler shops)	14.5
	3469 Metal stampings, n.e.c	(D)
	3494 Valves and pipe fittings	18.7
	3531 Construction machinery	14.9
	3542 Machine tools, metal forming types	(D)
	3544 Special dies, tools, jigs, and frames	(D)
	3551 Food products machinery	(D)
	3555 Printing trades machinery	(D)
	3559 Special industry machinery, n.e.c	(D)
	3561 Pumps and pumping equipment	30.5
	3569 General industrial machinery, n.e.c	15.9
	3644 Noncurrent-carrying wiring devices	(D)
	3714 Motor vehicles parts and accessories	28.7
	3795 Tanks and tank components	(D)
	3811 Engineering and scientific instruments	(D)
	3822 Environmental controls	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	AUTOMATIC MERCHANDISING MACHINES						
3581- --	Total		(NA)	(X)	396.2	(X)	306.3
35811 --	Automatic merchandising machines, coin operated (vending), excluding parts:						
	As reported in the census of manufactures		36	(X)	294.9	(X)	231.5
	As reported in Current Industrial Reports MA-35U, Vending Machines (Coin Operated)		(NA)	(X)	302.4	(X)	217.6
	Vending machines for beverages	Number	(NA)	236,818	198.6	198,335	141.4
35811 02	Hot beverage: Coffee (instant, freeze-dried or liquid concentrate), chocolate, tea, soup[3]		(NA)	[4]20,624	13.6	31,249	29.5
35811 04	Coffee: Fresh brew (single cup and batch)		(NA)	12,629	15.2		
	Soft drink:						
35811 05	Canned beverage (refrigerated) vending machines		(NA)	127,930	102.4	89,377	51.8
35811 07	Bottle vending machines[5]		(NA)	57,896	38.4	57,037	29.4
35811 09	Cup (premix and postmix)		(NA)	9,118	18.6	14,582	24.0
35811 06	Packaged milk and juice (indoor)		(NA)	8,615	10.4	6,090	6.7
35811 19	Other vending machines for beverages[6]		(NA)				
	Vending machines for confections and food		(NA)	194,538	65.1	180,987	48.7
35811 21	Bulk confections and charms		(NA)	[7]202,901	5.1	110,545	2.1
35811 22	Candy bars, cookies, and crackers		(NA)	[4]15,474	9.3	32,968	17.7
35811 23	Hot canned foods and soups		(NA)	[4]3,477	2.7	4,666	3.1
35811 27	Pastry		(NA)			7,670	3.2
35811 25	Multipurpose nonrefrigerated and refrigerated confections and food		(NA)	([8])	([8])		
35811 24	Ice cream		(NA)			25,138	22.7
35811 28	Bagged snack/chip		(NA)	27,921	33.3		
35811 29	Other vending machines for confections and food[9]		(NA)	[8]11,868	[8]14.7		
	All other vending machines		(NA)	154,629	38.7	124,262	27.4
35811 31	Cigarette		(NA)	[4]26,880	16.4	55,391	24.0
35811 35	Postage stamp		(NA)	5,103	.5	4,026	.2
35811 33	Ice		(NA)	894	2.6	64,845	3.2
35811 39	All other vending machines, except for beverages and confections and food[10]	Number	(NA)	121,572	19.2		
35812 --	Coin-operated mechanisms and other parts for automatic merchandising machines		(NA)	(X)	84.3	(X)	61.1
35812 51	Coin-operated mechanisms (for sale separately)	Number	14	*955,900	63.4	(S)	45.7
35812 69	Parts for automatic merchandising machines, except coin-operated mechanisms		15	(X)	19.9	(X)	15.4
35812 00	Coin-operated mechanisms and other parts for automatic merchandising machines, n.s.k.		(NA)	(X)	1.0	(X)	-
35810 00	Automatic merchandising machines, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	5.9	(X)	8.2
35810 02	Automatic merchandising machines, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	11.1	(X)	5.5
3582- --	COMMERCIAL LAUNDRY EQUIPMENT						
	Total		(NA)	(X)	233.6	(X)	185.3
35820 --	Commercial laundry, dry cleaning, and pressing machinery and equipment:						
	Laundry equipment:						
35820 21	Washers only	Thousands	9	(S)	27.6	(S)	12.0
35820 22	Extractors only		4	.4	3.0		
	Washer-extractor combinations:						
35820 13	Coin-operated, over 10-pounds load		4	*12.1	43.0	r(S)	r36.7
35820 14	Other than coin-operated		10			r4.4	r23.6
	Drying tumblers:						
38520 17	Coin-operated, over 10-pounds load		10	(S)	44.1	(S)	23.1
35820 18	Other than coin-operated		7	12.2	12.2	(S)	10.1
35820 26	Ironers, flatwork		8	.4	6.8	(S)	4.9
35820 27	Presses, laundry	Thousands	4	2.2	8.6	2.2	4.7
35820 28	Other commercial laundry equipment		12	(S)	24.0	(X)	15.7
	Parts, attachments, and accessories:						
35820 24	For washer-extractor combinations and drying tumblers (coin-operated, over 10-pounds load, and other coin-operated commercial)		7	(X)	5.7	(X)	13.8
35820 25	For other commercial laundry and pressing machinery and equipment, except dry cleaning		9	(X)	13.8		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	COMMERCIAL LAUNDRY EQUIPMENT--Con.						
	Commercial laundry, dry cleaning, and pressing machinery and equipment--Con.						
	Dry cleaning equipment:						
	Dry cleaning units:						
35820 32	Coin-operated	Thousands	1	.1	.4	2.5	4.7
	Other than coin-operated:						
35820 52	Washer-extractors, petroleum solvent		3	*.3	3.0	(S)	r11.0
35820 33	Other, including synthetic solvent		1				
35820 41	Presses, dry cleaning		4	2.1	3.4		
35820 43	Garment manufacturers' (needle trades) presses		3	8.4	3.8	2.7	4.7
35820 81	Other dry cleaning equipment, including reclaiming units	Thousands	5	15.7	8.0	(X)	2.9
35820 91	Parts, attachments, and accessories for dry cleaning equipment		10	(X)	10.5	(X)	6.4
35820 00	Commercial laundry equipment, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	11.0	(X)	8.4
35820 02	Commercial laundry equipment, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	4.7	(X)	2.6
	REFRIGERATION AND HEATING EQUIPMENT						
3585- --	Total		(NA)	(X)	8,501.7	(X)	6,232.1
35851 --	Heat transfer equipment, except room and unitary air conditioners and dehumidifiers:						
	As reported in census of manufactures		123	(X)	2,251.2	(X)	1,680.5
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces		(NA)	(X)	2,165.5	(X)	1,467.3
	Evaporative condensers:						
35851 04	100 tons and under	Number	(NA)	1,285	4.8	2,067	4.1
35851 07	Over 100 tons		(NA)	1,014	12.9	821	6.4
	Room fan-coil air conditioning units:						
35851 08	Vertical stack		(NA)	(D)	(D)	133,877	16.7
35851 09	Vertical		(NA)	107,331	23.6		
35851 10	Horizontal		(NA)	91,608	14.8	85,743	8.6
35851 11	Room air-induction units		(NA)	(D)	(D)	92,631	5.3
	Central station air conditioning units, motor-driven fan type:						
35851 13	Draw through		(NA)	33,926	71.2		
35851 15	Blow through		(NA)	9,971	23.2	55,367	60.7
35851 17	Heating and ventilating		(NA)	8,474	11.9		
35851 01	Packaged terminal air conditioners[11]		(NA)	261,777	82.1	204,785	53.3
	Unit coolers (refrigeration):						
	Ceiling- and wall-mounted types:						
35851 18	1,000 Btu/hr and under		(NA)	21,515	1.0	25,554	8.1
35851 19	1,001 to 2,000 Btu/hr		(NA)	40,979	2.5	44,413	2.0
35851 20	2,001 to 4,000 Btu/hr		(NA)	25,600	2.9	29,567	2.6
35851 21	4,001 to 6,000 Btu/hr		(NA)	21,132	3.3	18,099	2.3
35851 22	6,001 to 8,000 Btu/hr		(NA)	19,731	3.8	12,245	2.1
35851 23	8,001 to 12,000 Btu/hr		(NA)	27,761	6.6	20,875	4.2
35851 24	12,001 to 18,000 Btu/hr		(NA)	19,643	7.4	16,393	5.0
35851 25	Over 18,000 Btu/hr		(NA)	21,279	19.8	18,343	13.2
35851 26	Remote units (included above)		(NA)	158,992	(X)	144,313	(X)
35851 27	Single package units (included above)		(NA)	44,601	(X)	41,176	(X)
35851 57	Floor-mounted dry and spray types		(NA)	335	2.7	945	3.4
	Air-cooled refrigerant condensers, remote type:						
35851 29	30 tons and under		(NA)	11,716	10.3	9,598	5.6
35851 31	40 tons		(NA)	1,333	4.2	5,101	11.6
35851 33	50 tons and over	Number	(NA)	2,512	9.6		
35851 35	Shell-and-tube, shell-and-coil, shell-and-U-tube, tube-in-tube condensers		(NA)	(X)	10.3	(X)	6.4
35851 36	Shell-and-tube, shell-and-coil, shell-and-U-tube, tube-in-tube liquid coolers		(NA)	(X)	19.2	(X)	4.8
35851 37	Liquid-suction heat exchangers, and refrigerant liquid receivers		(NA)	(X)	16.1	(X)	11.8
	Finned coils, air conditioning and refrigeration type, used with but not including means for air circulation:						
35851 38	Standard steam and steam distributing tube		(NA)	(X)	13.8	(X)	9.1
35851 39	Standard water cooling and/or heating and cleanable tube water		(NA)	(X)	28.1	(X)	15.2
35851 40	Volatile refrigerant cooling		(NA)	(X)	7.3	(X)	10.8

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3585- --	REFRIGERATION AND HEATING EQUIPMENT--Con.						
35851 --	Heat transfer equipment, except room and unitary air conditioners and dehumidifiers--Con. As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces--Con. Unit coolers (refrigeration)--Con.						
	Coil sales by original equipment manufacturers intended for resale or assembly into equipment by other manufactures (all types):						
35851 81	Copper (only)	.....	(NA)	(X)	([12])	(D)	(D)
35851 82	Copper and aluminum	.....	(NA)	(X)	113.1	(X)	78.5
35851 83	Aluminum (only)	.....	(NA)	(X)	[12]36.7	(X)	30.0
35851 84	All others, including steel	.....	(NA)				
35851 67	Factory-assembled, finned gravity coils, including wetted-surface dehumidifiers	.....	(NA)	(X)	3.9	(X)	4.0
	Centrifugal liquid chilling packages:						
	Hermetic type:						
35851 46	200 hp and under	Number.....	(NA)	691	15.2	(D)	(D)
35851 49	201 to 300 hp		(NA)	695	18.8	1,048	18.9
35851 50	301 to 400 hp		(NA)	480	14.0	491	9.9
35851 51	401 to 500 hp		(NA)	340	13.3	409	10.7
35851 52	501 to 1,000 hp		(NA)	476	29.6	628	25.9
35851 53	Over 1,000 hp		(NA)				
35851 55	Open type (all sizes)		(NA)	295	22.6	297	14.1
35851 75	Absorption liquid chilling systems		(NA)	588	19.8	2,259	29.5
35851 76	Absorption and open type absorption systems		(NA)	2,318	12.2		
	Mobile vehicle refrigeration sustems:						
35851 77	Mechanical refrigeration systems, railway freight cars		(NA)	76,536	158.7	1,032	3.8
35851 78	Mechanical refrigeration systems, other mobile vehicle		(NA)			59,343	97.4
	Mobile vehicle mechanical air conditioning systems:						
35851 79	For passenger automobiles[13]		(NA)	9,459,535	880.2	5,855.486	637.5
35851 80	For truck and agriculture and construction machinery cabs, excluding mobile home, bus, and truck van systems.	Number.....	(NA)	2,452,820	120.6	370,015	41.2
	Icemaking machines:						
	Self-contained:						
	Ice cube makers:						
35851 62	Automatic, under 200 lb	Number.....	(NA)	57,518	23.9	48,345	11.3
35851 64	Automatic, 201 lb to 300 lb		(NA)	29,258	21.2	24,075	13.6
35851 66	Automatic, 301 lb and over		(NA)	38,739	53.6	29,074	26.9
	Flake and chip machines:						
35851 72	300 lb and under		(NA)	6,403	4.3	30,155	21.8
35851 74	301 lb and over		(NA)	18,826	20.5		
35851 73	Not self-contained		(NA)	5,752	7.0	747	1.2
35851 71	Combination ice makers and ice dispensers		(NA)	6,215	9.3	(X)	(X)
35851 70	Combination ice makers and drink dispensers		(NA)	2,395	3.9	(X)	(X)
	Reciprocating liquid chilling packages:						
35851 87	20 hp and under		(NA)	2,076	7.8	11,651	12.9
35851 88	21 to 49 hp		(NA)	2,280	20.4	2,357	10.6
35851 89	50 to 75 hp		(NA)	1,976	22.3	1,611	17.5
35851 90	Over 75 hp		(NA)	2,333	41.0	2,041	20.9
35851 97	Water chilling units (included above)		(NA)	4,939	(X)	4,608	(X)
35851 98	Other chilling units (included above)		(NA)	4,080	(X)	4,052	(X)
35851 99	Open type units (included above)		(NA)	140	(X)	442	(X)
35851 91	Hermit type units (included above)		(NA)	8,879	(X)	18,218	(X)
35851 96	Factory-fabricated water-cooling towers	Number.....	(NA)	12,168	45.6	14,747	47.4
35852 --	Unitary air conditioners:						
	As reported in census of manufactures	.....	59	(X)	1,673.0	(X)	1,070.6
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces	.....	(NA)	[14]2,829,447	1,643.9	[14 15]2,338,374	[15]1,055.4
	Air conditioners, except window and wall types:						
	Single package (with or without evaporator fan):						
	Horizontal:						
35852 31	Under 27,000 Btu/hr	Number.....	(NA)	247,459	75.1	278,919	63.6
35852 33	27,000 to 32,999 Btu/hr		(NA)	28,838	11.8	26,516	9.8
35852 35	33,000 to 53,999 Btu/hr		(NA)	98,777	57.7	79,958	36.4
35852 37	54,000 to 64,999 Btu/hr		(NA)	29,903	24.2	20,843	14.0
35852 39	65,000 to 96,999 Btu/hr		(NA)	10,655	16.1	7,749	7.5
35852 41	97,000 to 134,999 Btu/hr		(NA)	8,869	19.1	7,459	8.4
35852 43	135,000 to 184,999 Btu/hr		(NA)	4,259	13.4	3,992	9.2
35852 45	185,000 to 249,999 Btu.hr		(NA)	1,157	5.6	2,549	5.4
35852 47	250,000 to 319,999 Btu/hr		(NA)	839	4.4	1,253	5.0
35852 49	320,000 to 379,999 Btu/hr		(NA)	599	4.1	263	1.5
35852 51	380,000 Btu/hr and over	Number.....	(NA)	746	9.8	434	3.7

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	REFRIGERATION AND HEATING EQUIPMENT--Con.						
	Unitary air conditioners--Con.						
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces--Con.						
	Air conditioners, except window and wall types--Con.						
	Single package (with or without evaporator fan)--Con.						
	Other than horizontal:						
35852 34	Under 33,000 Btu/hr	Number	(NA)	2,389	1.3	2,165	.8
35852 36	33,000 to 53,999 Btu/hr		(NA)	13,240	13.9	11,450	7.0
35852 38	54,000 to 64,999 Btu/hr		(NA)	7,174	9.0	2,536	2.1
35852 40	65,000 to 96,999 Btu.hr		(NA)	3,112	4.7	5,475	4.9
35852 42	97,000 to 134,999 Btu/hr		(NA)	2,453	4.9	8,993	9.6
35852 44	135,000 to 184,999 Btu/hr		(NA)	1,768	4.8	1,336	3.4
35852 46	185,000 to 249,999 Btu/hr		(NA)	528	1.9	500	1.5
35852 49	250,000 Btu/hr and over		(NA)	931	7.1	2,117	5.9
	For horizontal:						
35852 53	Air- or evaporative-cooled units		(NA)	432,101	(X)	429,865	(X)
35852 54	Water-cooled units		(NA)				
	For other than horizontal:						
35852 55	Air- or evaporative-cooled units		(NA)	21,626	(X)	24,099	(X)
35852 56	Water-cooled units.		(NA)	9,969	(X)	19,473	(X)
	Year-round air conditioners, single package and remote-condenser types, except heat pumps:						
35852 21	Under 33,000 Btu/hr		(NA)	65,602	44.3	67,461	32.4
35852 22	33,000 to 38,999 Btu/hr		(NA)	36,700	23.1	32,790	16.9
35852 23	39,000 to 43,999 Btu/hr		(NA)	14,441	9.9	10,172	5.9
35852 25	44,000 to 53,999 Btu/hr		(NA)	19,129	16.8	21,275	15.0
35852 26	54,000 to 64,999 Btu/hr		(NA)	33,162	37.4	29,947	27.3
35852 27	65,000 to 134,999 Btu/hr		(NA)	23,233	53.3	23,227	43.3
35852 29	135,000 to 184,999 Btu/hr		(NA)	5,131	20.0	6,217	21.5
35852 91	185,000 to 249,999 Btu/hr		(NA)	2,328	12.8	3,498	14.9
35852 92	250,000 to 319,999 Btu/hr		(NA)	1,599	12.4	2,458	15.4
35852 93	320,000 to 379,999 Btu/hr		(NA)	821	7.2	1,024	8.3
35852 94	380,000 to 539,999 Btu/hr		(NA)	667	8.2	1,406	13.9
35852 98	540,000 to 639,999 Btu/hr		(NA)	285	3.8	260	3.2
35852 99	640,000 Btu/hr and over		(NA)	314	7.4	333	5.0
	Heat pumps, except room air conditioners:						
	Single package:						
35852 61	Under 27,000 Btu/hr		(NA)	44,686	20.0	12,639	4.5
35852 62	27,000 to 41,999 Btu/hr		(NA)	70,746	44.2	21,715	10.7
35852 63	42,000 to 64,999 Btu/hr		(NA)	43,813	38.5	11,376	8.0
35852 64	65,000 Btu/hr and over		(NA)	6,846	15.3	1,182	1.9
	Spilt system:						
35852 67	Under 27,000 Btu/hr		(NA)	93,216	32.4	7,954	1.6
35852 68	27,000 to 41,999 Btu/hr		(NA)	200,389	97.0	14,160	6.1
35952 69	42,000 to 64,999 Btu/hr		(NA)	76,862	55.2	10,655	6.8
35852 70	65,000 Btu/hr and over		(NA)			1,162	1.5
	Spilt system air conditioning units:						
	Air conditioning condensing units:						
35852 71	Under 22,000 Btu/hr		(NA)	171,117	31.5	242,740	35.5
35852 72	22,000 to 26,999 Btu/hr		(NA)	316,130	69.2	344,412	62.3
35852 73	27,000 to 32,999 Btu/hr		(NA)	319,639	91.1	263,439	61.5
35852 74	33,000 to 38,999 Btu/hr		(NA)	381,201	128.0	345,481	100.5
35852 75	39,000 to 43,999 Btu/hr		(NA)	131,955	56.7	98,342	33.5
35852 76	44,000 to 53,999 Btu/hr		(NA)	141,895	64.8	112,383	45.1
35852 78	54,000 to 64,999 Btu/hr		(NA)	118,607	65.4	138,054	44.4
35852 79	65,000 to 96,999 Btu/hr		(NA)	18,795	18.7	18,177	15.2
35852 80	97,000 to 134,999 Btu/hr		(NA)	12,266	16.5	11,987	13.5
35852 81	135,000 to 184,999 Btu/hr		(NA)	6,745	13.2	6,960	10.2
35852 82	185,000 to 249,999 Btu/hr		(NA)	2,936	7.7	3,189	6.5
35852 83	250,000 to 319,999 Btu/hr		(NA)	1,408	4.3	1,592	3.9
35852 84	320,000 to 379,999 Btu/hr		(NA)	1,072	4.4	1,419	4.2
35852 87	380,000 to 539,999 Btu/hr		(NA)	868	4.7	1,160	4.6
35852 88	540,000 to 639,999 Btu/hr		(NA)	551	3.7	603	2.9
35852 89	640,000 Btu/hr and over		(NA)	596	5.8	794	5.0
	Air conditioning coils:						
35852 85	With blower		(NA)	621,845	134.9	429,122	67.7
35852 86	Without blower	Number	(NA)	901,705	75.7	1,048,896	67.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	REFRIGERATION AND HEATING EQUIPMENT--Con.						
35853 --	Commercial refrigeration equipment	.....	(NA)	(X)	759.4	(X)	482.3
	Refrigerated enclosures, including self-contained units, remote units with or without condensing units, and cabinets excluding cabinets shipped to other manufacturers of commercial refrigeration equipment:						
35853 12	Sectional coolers or cooling rooms of the prefabricated (factory produced) type, including walk-in, roll-in, and combination cooler-display types	Thousands.....	52	(S)	158.6	38.8	89.9
	Reach-in refrigerators and reach-in type vertical display cabinets, with solid or glazed doors:						
35853 15	For normal temperature application, i.e., not intended for frozen foods, ice cream, etc.		29	74.0	68.2	78.7	52.0
35853 18	For low temperature application		26	29.9	53.9	45.2	33.8
	Display cases for meats, dairy products, produce, and other perishables, operated at normal temperatures:						
35853 22	Closed		13	**11.2	16.2	10.1	8.7
	Open, self-service:						
35853 23	One level		9	26.0	30.8	25.3	23.8
35853 28	Multilevel		12	31.7	62.9	30.6	38.5
	Display cases and cabinets for frozen foods, ice cream, and other foods operated at low temperatures, except coin-operated:						
	Frozen food display cases, open, self-service:						
35853 31	One level		10	32.2	39.2	56.7	39.3
35853 33	Multilevel		6	11.0	32.6	18.1	34.7
35853 35	Frozen food cabinets, closed, other than reach-in type		5	**6.4	6.6	2.5	3.5
35853 36	Ice cream counter freezers, including frozen custard machines		3	(S)	9.8	([16])	([16])
35853 38	Ice cream dispensing and hardening cabinets		6	12.3	17.5	(S)	6.9
	Mechanical drinking water coolers:						
35853 43	As reported in census of manufactures		12	(X)	70.6	(X)	49.4
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces		(NA)	335.2	65.2	331.5	48.9
	Mechanical beverage cooling and dispensing equipment, except coin-operated:						
35853 52	Bottled beverages coolers, dry and wet types		13	(S)	21.5	(S)	9.7
35853 57	Bulk beverage dispensers, including malt dispensers and pre-cooler cabinets		12	(S)	67.3	120.0	18.7
35853 73	Farm and dairy milk coolers, including immersion type and bulk tank storage coolers		4	(S)	16.7	5.3	12.1
35853 85	Shipping casks for nuclear materials (with integral electric units)	Thousands.....	-	-	-		
35853 97	Other commercial refrigerators, including dough retarders, egg refrigerators, environmental control equipment, laboratory and industrial refrigerators, mortuary refrigerators, etc	.....	26	(X)	62.5	(S)	[16]41.1
35853 00	Commercial refrigeration equipment, n.s.k	.....	(NA)	(X)	24.5	(X)	20.2
35854 --	Compressors and compressor units, all refrigerants:[17]						
	As reported in census of manufactures	.....	40	(X)	1,580.3	(X)	1,065.4
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces	Number.....	(NA)	23,991,643	1,508.9	16,692,137	761.6
	10 hp and under, hermetic type motor compressors:						
35854 11	2.5 hp and under		(NA)	11,159,547	507.9	6,990,225	255.1
35854 36	3 hp to 10 hp		(NA)	1,886,268	265.2	(D)	(D)
	10 hp and under, open type compressors (with or without motors):						
35854 74	3 hp and under		(NA)	16,789	3.7	18,762	1.6
35854 75	4 hp to 10 hp		(NA)			3,181	1.0
	Over 10 hp (open and hermetic types):						
35854 46	15 hp		(NA)	75,939	57.2	7,216	3.4
35854 47	20 hp		(NA)			7,501	4.0
35854 48	25 hp		(NA)			9,667	5.5
35854 49	30 hp		(NA)			3,619	2.9
35854 51	40 hp		(NA)			6,316	5.2
35854 52	50 hp		(NA)	2,509	3.9	1,320	1.4
35854 53	60 hp		(NA)	2,172	4.7	1,694	2.4
35854 54	75 hp		(NA)	3,129	7.5	1,759	3.2
35854 55	100 hp		(NA)	1,665	4.8	954	2.0
35854 56	Over 100 hp		(NA)	2,071	10.1	702	2.2
35854 57	Open-type units (included above)		(NA)	87,485	(X)	8,000	(X)
35854 58	Hermetic-type units (included above)	Number.....	(NA)			32,748	(X)

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	REFRIGERATION AND HEATING EQUIPMENT--Con.						
	Compressors and compressor units, all refrigerants[17]--Con.						
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including War Air Furnaces--Con.						
	Automotive air conditioning compressors:						
35854 59	Open type, with or without motor	Number	(NA)	10,840,111	628.9	(D)	(D)
35854 81	Screw type		(NA)				
	Ammonia refrigerants:						
35854 86	Under 75 hp		(NA)	484	3.0	621	2.2
35854 68	75 hp		(NA)	244	2.0	615	3.6
35854 69	100 hp		(NA)				
35854 71	101 to 200 hp		(NA)	715	10.0	234	1.8
35854 72	201 hp and over	Number	(NA)			67	.7
35855 --	Condensing units, all refrigerants, except ammonia:						
	As reported in census of manufactures		40	(X)	175.6	(X)	146.8
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces		(NA)	529.5	160.0	392.0	78.6
	Air-cooled:						
35855 10	Open type, under 15 hp	Thousands	(NA)	2.1	1.0	5.7	1.5
	Hermetic type:						
35855 01	1/8 hp and under		(NA)				
35855 02	1/6 hp and under		(NA)				
35855 03	1/5 hp		(NA)	237.6	20.3	169.5	10.2
35855 27	1/4 hp		(NA)				
35855 28	1/3 hp		(NA)				
35855 29	1/2 hp		(NA)	93.3	12.3	76.7	6.9
35855 30	3/4 hp		(NA)	86.2	20.5	63.3	10.7
35855 31	1 hp		(NA)				
35855 32	1 1/2 hp		(NA)	23.2	9.0		
35855 33	2 hp		(NA)	20.0	9.8	14.1	4.7
35855 34	2 1/2 hp		(NA)	20.9	15.3	22.1	9.8
35855 35	3 hp		(NA)				
35855 38	Over 3 hp but under 15 hp		(NA)	28.6	38.1	23.1	18.8
	Water-cooled:						
35855 46	Open type, 10 hp and under		(NA)	.4	.4	1.3	0.7
	Hermetic type:						
35855 48	1 1/2 hp and under		(NA)			8.4	1.6
35855 53	2 hp		(NA)	10.7	4.0	1.3	.5
35855 54	3 hp		(NA)			1.5	.7
35855 55	4 hp		(NA)	-	-		
35855 56	5 hp		(NA)	.7	.7	1.1	.7
35855 57	7 1/2 hp		(NA)	.5	.8	.9	.9
35855 59	10 hp		(NA)	.3	.4	.6	.6
	Water- and air-cooled, open and hermetic type:						
35855 61	15 hp		(NA)	1.2	3.9	1.2	1.9
35855 62	20 hp		(NA)	1.1	4.7	.8	1.7
35855 63	25 hp		(NA)	.6	3.8	.4	1.2
35855 64	30 hp		(NA)	.8	5.0	.4	1.0
35855 70	40 hp and over		(NA)	1.3	10.0	.7	4.5
35855 71	Open type units (included above)		(NA)	.9	(X)	.7	(X)
35855 72	Hermetic type units (included above)	Thousands	(NA)	4.0	(X)	3.0	(X)
35856 --	Room air conditioners and dehumidifiers:						
	As reported in census of manufactures		32	(X)	720.4	(X)	679.6
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces	Thousands	(NA)	3,654.7	722.3	4,972.4	657.8
	Room air conditioners:						
35856 31	5,999 Btu/hr and under		(NA)	513.7	57.8	685.5	57.5
	6,000 to 6,999 Btu/hr:						
35856 33	7 1/2 A 115 volts		(NA)	175.4	25.8	487.0	47.9
35856 35	All other		(NA)	19.6	2.9	182.8	20.2
	7,000 to 7,999 Btu/hr:						
35856 37	7 1/2 A 115 volts		(NA)	73.8	13.0	50.1	8.4
35856 39	All other		(NA)	13.0	2.2	24.5	3.2
	8,000 to 8,999 Btu/hr:						
35856 41	115 volts		(NA)	263.2	41.8	562.0	65.7
35856 43	208 to 230 volts	Thousands	(NA)	28.3	4.9	55.0	7.1

See footnotes at end of table.

Table 6a. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	REFRIGERATION AND HEATING EQUIPMENT--Con.						
	Room air conditioners and dehumidifiers--Con.						
	As reported in Current Industrial Reports MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces--Con						
	Room air conditioners--Con.						
	9,000 to 9,999 Btu/hr:						
35856 45	115 volts	Thousands	(NA)	63.7	12.7	99.1	14.3
35856 47	208 to 230 volts		(NA)	122.2	21.8	168.1	21.1
	10,000 to 10,999 Btu/hr:						
35856 51	115 volts		(NA)	178.9	33.0	236.7	34.3
35856 53	208 to 230 volts		(NA)	35.6	6.9	53.2	7.9
	11,000 to 12,999 Btu/hr:						
35856 55	115 volts		(NA)	181.1	39.1	244.3	37.7
35856 57	208 to 230 volts		(NA)	224.4	47.5	169.2	25.5
35856 61	13,000 to 14,999 Btu/hr		(NA)	224.1	54.5	214.4	37.5
35856 63	15,000 to 16,999 Btu/hr		(NA)	244.1	62.1	175.4	29.9
35856 65	17,000 to 19,999 Btu.hr		(NA)	494.2	122.7	402.8	74.4
35856 67	20,000 to 22,999 Btu/hr		(NA)	160.4	41.8	230.8	44.1
35856 68	23,000 to 25,999 Btu/hr		(NA)	204.1	60.6	234.8	51.0
35856 69	26,000 Btu/hr and over		(NA)	83.7	30.5	130.8	35.6
35856 11	Electrically operated dehumidifiers, mechanically refrigerated type, self-contained	Thousands	(NA)	351.2	40.7	568.7	37.7
35857 --	Refrigeration and air conditioning equipment, n.e.c., including soda fountain and beer-dispensing equipment		(NA)	(X)	712.2	(X)	570.3
35857 11	Soda fountain equipment (cooler box, fountainette, and similar equipment)		9	(X)	21.0	(X)	12.7
35857 51	Beer-dispensing equipment		8	(X)	11.4	(X)	2.0
35857 94	Evaporative air coolers		11	(X)	36.7	(X)	44.2
35857 96	Other refrigeration machinery and air conditioning equipment.		26	(X)	69.6	(X)	93.2
35857 97	Complete refrigeration systems shipped to other manufacturers for incorporation into a cabinet, vending machine, or household refrigerator		6	(X)	33.2		
35857 98	Other components and accessories for air conditioning and refrigeration equipment		71	(X)	521.9	(X)	402.1
35857 00	Refrigeration and air conditioning equipment, n.e.c., including soda fountain and beer-dispensing equipment, n.s.k.		(NA)	(X)	18.3	(X)	16.1
35858 --	Warm air furnaces (gas, oil, and solid fuel), except floor and wall; and parts and attachments		(NA)	(X)	378.4	(X)	384.2
35858 10	As reported in census of manufactures		40	(X)	340.0	(X)	369.8
	As reported in Current Industrial Reports, MA-35M, Air Conditioning and Refrigeration Equipment, Including Warm Air Furnaces	Thousands	(NA)	1,759.2	336.4	2,697.9	384.9
	Forced-air type (cast iron and steel):						
35858 03	Solid fuel (coal, coke, and wood)		(NA)	7.9	4.4	.5	.1
	Oil:						
35858 04	150,000 Btu Bonnet output and under		(NA)	252.1	75.5	410.8	83.1
35858 05	150,001 to 400,000 Btu Bonnet output		(NA)	14.7	7.5	18.3	5.8
35858 06	Over 400,000 Btu Bonnet output		(NA)	1.4	6.2	1.2	3.6
	Gas:						
35858 07	150,000 Btu Bonnet output and under		(NA)	1,422.1	223.1	2,231.9	272.4
35858 08	150,001 to 400,000 Btu Bonnet output		(NA)	27.4	10.5	31.1	8.4
35858 09	Over 400,000 Btu Bonnet output		(NA)	(D)	(D)	2.7	11.2
35858 25	Gravity air-flow type (cast iron and steel)	Thousands	(NA)	(D)	(D)	1.4	.3
35858 73	Parts for warm air furnaces, excluding registers		21	(X)	33.9	(X)	14.4
35858 00	Warm air furnaces, parts, and attachments, n.s.k.		(NA)	(X)	4.5	(X)	-
35850 00	Refrigeration and heating equipment, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	155.1	(X)	132.9
35850 02	Refrigeration and heating equipment, n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	96.2	(X)	19.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MEASURING AND DISPENSING PUMPS						
3586- --	Total	.....	(NA)	(X)	265.6	(X)	183.4
35860 --	Measuring and dispensing pumps:						
	Gasoline dispensing pumps, computing type (filling station type):						
	Single units:						
35860 13	With suction pumping unit	Thousands	9	65.5	63.3	78.1	39.7
35860 14	Without suction pumping unit	Thousands	4	12.9	11.2		
	Dual units:						
35860 15	With suction pumping unit	Thousands	5	20.2	36.1	(S)	32.3
35860 16	Without suction pumping unit	Thousands	3				
35860 21	Lubricating-oil outfits, including pump and tank	Thousands	4	(S)	4.0	(S)	13.8
35860 31	Lubricating-oil pumps, including barrel pumps	Thousands	7	**231.7	12.7	605.1	11.4
35860 41	Grease pumps	Thousands	4	(S)	([18])	(S)	10.7
35860 51	Grease guns	Thousands	5	(S)	21.7	3,347.5	10.5
35860 98	Other measuring and dispensing pumps (including noncomputing gasoline dispensing pumps)	.....	17	(X)	[18]98.5	(X)	59.1
35860 00	Measuring and dispensing pumps, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	12.5	(X)	4.1
35860 02	Measuring and dispensing pumps, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	5.6	(X)	1.8
	SERVICE INDUSTRY MACHINERY, N.E.C.						
3589- --	Total	.....	(NA)	(X)	1,687.6	(X)	864.4
35891 --	Commercial cooking and food warming equipment	.....	(NA)	(X)	386.0	(X)	217.0
	Nonelectric:						
35891 11	Commercial cooking stoves, ranges, ovens, and broilers (except electric)	Thousands	10	204.9	75.0	(S)	28.7
35891 29	Other commercial cooking equipment (except electric), including griddles, toasters, deep-fat fryers, coffee urns, pressure cookers--steam, etc	Thousands	20	*52.7	47.4	(S)	47.1
35891 31	Commercial food warming equipment (except electric), including steam tables	.....	4	(X)	3.7	(X)	7.6
	Electric, electronic, and microwave:						
35891 61	Commercial ranges, ovens, and broilers (electric)	Thousands	17	**35.4	45.0	(S)	33.6
35891 63	Commercial electronic stoves and ovens	Thousands	4	**10.3	8.6	(X)	3.2
35891 71	Other commercial cooking equipment (electric), including griddles, toasters, deep-fat fryers, coffee makers, coffee urns, etc	Thousands	35	**272.1	114.2	152.1	36.7
35891 81	Commercial food warming equipment (electric), including hot food server units and steam tables	.....	27	(X)	40.5	(X)	34.8
35891 85	Parts and accessories for commercial cooking and food warming equipment	.....	22	(X)	22.6	(X)	15.5
35891 00	Commercial cooking and food warming equipment, n.s.k	.....	(NA)	(X)	29.0	(X)	9.8
35892 --	Service industry machines and parts	.....	(NA)	(X)	1,059.2	(X)	496.5
	Water softeners:						
35892 22	Industrial	Thousands	18	(S)	50.0	21.8	19.3
	Farm, household, and commercial:						
35892 25	Manual and semiautomatic	Thousands	6	*28.9	6.6	89.0	6.1
35892 28	Automatic	Thousands	17	307.7	55.9	234.7	52.4
35892 35	Floor waxing and polishing machines, commercial and industrial type	Thousands	17	138.0	54.3	62.7	17.3
35892 42	Floor sanding and scrubbing machines, commercial type	.....	11	(X)	29.3	(X)	21.8
35892 61	Carpet sweepers, commercial type	Thousands	7	(S)	18.7	22.4	6.5
	Dishwashing machines:						
35892 73	Conveyor type	Thousands	7	1.9	17.6	25.2	45.2
35892 75	All other	Thousands	14	26.4	45.1		
35892 81	Sewage purification equipment	.....	59	(X)	222.1	(X)	91.0
35892 82	Commercial car washing machinery and equipment	Thousands	24	(S)	41.3		
35892 83	Garbage and trash compactors, commercial and industrial	Thousands	9	**2.3	9.8		
35892 84	Sewer pipe and drain cleaning machinery and equipment	Thousands	14	*635.5	38.0	(S)	192.2
35892 92	Other industrial and commercial service machines	.....	81	(X)	298.0		
35892 93	Parts and accessories for service industry machines	.....	47	(X)	77.3	(X)	31.9
35892 00	Service industry machines and parts, n.s.k	.....	(NA)	(X)	95.1	(X)	12.8
35893 --	Commercial and industrial vacuum cleaners, including parts and attachments	.....	(NA)	(X)	109.4	(X)	62.7
35893 11	Portable, including parts and attachments	Thousands	30	*264.4	86.3	(S)	43.5
35893 98	Central system, including parts and attachments for all types of commercial and industrial vacuum cleaners	.....	10	(X)	17.3	(X)	15.2
35893 00	Commercial and industrial vacuum cleaners, including parts and attachments, n.s.k	.....	(NA)	(X)	5.8	(X)	4.0
35890 00	Service industry machinery, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	96.9	(X)	52.5
35890 02	Service industry machinery, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	36.0	(X)	35.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Companies reporting $100,000 or more	Product shipments[1]		Shipments for replacement including shipments to U.S. motor vehicle manufacturers for resale		Value of shipments to U.S. motor vehicle manufacturers or their suppliers for use in original equipment (million dollars)	Value of shipments for export including transfers to other divisions for export (million dollars)
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)		
			1977						
	CARBURETORS, PISTONS, RINGS, AND VALVES								
3592- --	Total	.....	(NA)	(X)	1,298.5	(X)	(X)	(X)	(X)
35921 --	Carburetors, new and rebuilt	.....	(NA)	(X)	642.0	(X)	(X)	(X)	(X)
	Carburetors, new, all types:								
35921 11	For motor vehicles, passenger cars, trucks, and buses	Millions	8	15.1	554.3	2.0	54.3	452.7	47.3
35921 13	All other carburetors	↕	7	*3.7	44.2	(X)	(X)	(X)	(X)
35921 71	Carburetors, rebuilt, all types	Millions	11	2.2	42.2	(X)	(X)	(X)	(X)
35921 00	Carburetors, new and rebuilt, n.s.k.	.....	(NA)	(X)	1.3	(X)	(X)	(X)	(X)
35922 --	Pistons and piston rings, engine	.....	(NA)	(X)	372.2	(X)	(X)	(X)	(X)
	Pistons, all types (machined), excluding rough castings:								
35922 21	For motor vehicles, passenger cars, trucks, and buses	Millions	15	17.9	99.4	9.7	54.5	31.9	13.0
35922 23	All other pistons	↕	9	7.3	46.4	(X)	(X)	(X)	(X)
	Piston rings, all types:								
	Oil type:								
35922 51	For motor vehicles, passenger cars, trucks, and buses		9	222.6	49.7	32.9	12.1	32.2	5.4
35922 53	All other oil type piston rings		7	16.2	7.0	(X)	(X)	(X)	(X)
	Compression type:								
35922 55	For motor vehicles, passenger cars, trucks, and buses		10	444.3	137.6	108.2	38.5	87.4	11.7
35922 57	All other compression type piston rings	Millions	16	13.6	30.9	(X)	(X)	(X)	(X)
35922 00	Pistons and piston rings, n.s.k.	.....	(NA)	(X)	1.2	(X)	(X)	(X)	(X)
35923 --	Valves, engine intake and exhaust	.....	(NA)	(X)	257.5	(X)	(X)	(X)	(X)
35923 61	For motor vehicles, passenger cars, trucks, and buses	Millions	9	245.2	210.6	21.9	19.6	177.4	13.6
35923 63	All other valves	Millions	25	(S)	46.9	(X)	(X)	(X)	(X)
35923 00	Valves, intake and exhaust, n.s.k.	.....	(NA)	(X)	-	(X)	(X)	(X)	(X)
35920 00	Carburetors, pistons, rings, and valves, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	13.1	(X)	(X)	(X)	(X)
35920 02	Carburetors, pistons, rings, and valves, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	13.8	(X)	(X)	(X)	(X)
			1972						
	CARBURETORS, PISTONS, RINGS, AND VALVES								
3592- --	Total	.....	(NA)	(X)	793.9	(X)	(X)	(X)	(X)
35921 --	Carburetors, new and rebuilt	.....	(NA)	(X)	355.3	(X)	(X)	(X)	(X)
	Carburetors, new, all types:								
35921 11	For motor vehicles, passenger cars, trucks, and buses	Millions	(NA)	19.7	296.8	3.4	60.6	189.9	46.3
35921 13	All other carburetors	Millions	(NA)	5.0	33.0	(X)	(X)	(X)	(X)
35921 71	Carburetors, rebuilt, all types	.....	(NA)	(X)	25.5	(X)	(X)	(X)	(X)
35922 --	Pistons and piston rings	.....	(NA)	(X)	229.3	(X)	(X)	(X)	(X)
	Pistons, all types (machined), excluding rough castings:								
	Aluminum:								
35922 31	For motor vehicles, passenger cars, trucks, and buses	Millions	(NA)	20.0	58.4	11.2	26.5	30.3	1.6
35922 33	All other aluminum pistons	↕	(NA)	9.6	13.1	(X)	(X)	(X)	(X)
	Other than aluminum:								
35922 35	For motor vehicles, passenger cars, trucks, and buses		(NA)	.8	6.1	(D)	(D)	(D)	-
35922 37	All other pistons		(NA)			(X)	(X)	(X)	(X)
	Piston rings, all types:								
	Oil type:								
35922 51	For motor vehicles, passenger cars, trucks, and buses		(NA)	307.7	47.5	62.6	14.9	30.5	2.1
35922 53	All other oil type piston rings	Millions	(NA)	7.6	13.0	(X)	(X)	(X)	(X)

See footnotes at end of table.

, Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Companies reporting $100,000 or more	Product shipments[1]		Shipments for replacement including shipments to U.S. motor vehicle manufacturers for resale		Value of shipments to U.S. motor vehicle manufacturers or their suppliers for use in original equipment (million dollars)	Value of shipments for export including transfers to other divisions for export (million dollars)
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)		
			1972--Con.						
3592- --	CARBURETORS, PISTONS, RINGS, AND VALVES--Con.								
35922 --	Pistons and piston rings--Con.								
	Compression type:								
35922 55	For motor vehicles, passenger cars, trucks, and buses	Millions	(NA)	347.5	62.5	59.9	14.5	45.1	2.9
35922 57	All other compression type piston rings	Millions	(NA)	16.1	28.7	(X)	(X)	(X)	(X)
35923 --	Valves, engine intake and exhaust	.....	(NA)	(X)	196.6	(X)	(X)	(X)	(X)
35923 61	For motor vehicles, passenger cars, trucks, and buses	Millions	(NA)	223.8	157.3	(D)	(D)	129.7	(D)
36923 63	All other valves	Millions	(NA)	27.8	39.3	(X)	(X)	(X)	(X)
35920 00	Carburetors, pistons, rings, and valves, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	12.7	(X)	(X)	(X)	(X)
35920 02	Carburetors, pistons, rings, and valves, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)		(X)	(X)	(X)	(X)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MACHINERY, EXCEPT ELECTRICAL, N.E.C.						
3599- --	Total	.....	(NA)	(X)	6,441.0	(X)	3,363.3
35992 --	Pneumatic and hydraulic cylinders (linear motors), accumulators, cushions, and shock absorbers (not for vehicle suspension)	.....	(NA)	(X)	456.1	(X)	189.2
	Hydraulic cylinders:						
35992 11	Tie-rod types	Thousands	32	1,180	92.1		
35992 12	Weld fused		30	(S)	115.1		
35992 13	Telescoping		15	(S)	30.0	(X)	127.6
35992 14	Threaded		9	164	12.4		
35992 15	Mill type		10	(S)	9.4		
35992 16	Other, including combinations		25	(S)	34.8		
	Pneumatic cylinders:						
35992 21	Tie-rod type		23	447	49.4	(X)	54.8
35992 22	Other		25	(S)	28.9		
35992 31	Accumulators (fluid power), including hydraulic, hydropneumatic, pneumatic, etc		8	(S)	42.4	(X)	(19)
35992 33	Cushions (fluid power), non-linear, including hydraulic, hydropneumatic, pneumatic, etc		4	34	7.0	(X)	(19)
35992 37	Shock absorbers, not for vehicle suspension, hydraulic and pneumatic	Thousands	9	(S)	20.0	(X)	(19)
35992 00	Pneumatic and hydraulic cylinders (linear motors), accumulators, cushions and shock absorbers (not for vehicle suspension), n.s.k	.....	(NA)	(X)	14.5	(X)	6.8
35994 --	Miscellaneous machinery products, including flexible metal hose and tubing, metal bellows, etc	.....	(NA)	(X)	676.9	(X)	19442.5
	Flexible metal hose and tubing:						
35994 11	Copper and copper-base alloy	.....	16	(X)	19.5	(X)	25.5
35994 13	Aluminum and aluminum-base alloy	.....	11	(X)	8.2	(X)	3.6
35994 15	Stainless steel	.....	28	(X)	62.9	(X)	59.3
35994 16	Other	.....	25	(X)	51.0		
35994 25	Metal bellows	.....	21	(X)	59.2	(X)	16.2
35994 31	Carnival and amusement park equipment (ferris wheels, merry-go-rounds, etc.), excluding coin-operated amusement machines	.....	11	(X)	27.9	(X)	20.7
35994 98	Other miscellaneous machinery products	.....	226	(X)	348.5	(X)	19262.1
35994 00	Miscellaneous machinery products, including flexible metal hose and tubing, metal bellows, etc., n.s.k	.....	(NA)	(X)	99.7	(X)	55.1

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MACHINERY, EXCEPT ELECTRICAL, N.E.C.--Con.						
35995 --	Receipts for machine shop jobwork:						
35995 11	Receipts for machine shop jobwork[4]	.....	5,191	(X)	3,338.1	(X)	1,425.8
35990 00	Miscellaneous machinery, except electrical, n.e.c., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	1,124.2	(X)	670.8
35990 02	Miscellaneous machinery, except electrical, n.e.c., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	845.7	(X)	635.0

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]These are primarily coffee vending machines though they may also vend hot chocolate and/or hot soup from the same cabinet.

[4]15 to 25 percent of quantity was estimated.

[5]Some vending machines designed and sold to handle bottled soft drinks are also adaptable to canned beverages through the use of a conversion kit. For this reason number of factory-shipped dispensers for canned beverages may be somewhat less than number of vending machines put into service.

[6]Includes vending machines for beverages such as milk in quart and half gallon containers and for packaged dry ingredients for mixing into beverages, etc.

[7]Over 50 percent of quantity was estimated.

[8]For 1977, product codes 35811 27, 35811 25, and 35811 24 were included with product code 35811 29.

[9]Includes vending machines for bulk popcorn.

[10]Includes vending machines for such products as aspirin, cigars, combs, cosmetics, pencils, paper, and newspapers. Included are multipurpose machines for nonfood and nonbeverage items.

[11]Defined as factory selected combinations of heating and cooling components or assemblies intended to serve an individual room and comprised of (1) heating assembly available with element for use with hot water, steam, and electricity; means for forced heated air circulation and distribution; integral or remote temperature controls, (2) slide-in cooling section with complete refrigerant cycle, (3) room cabinet, (4) provision for outdoor air intake and discharge, and accessories as required for mounting in a building wall, (5) provisions for air filtration and ventilations, (6) permanent individual branch circuit wiring with a suitable line cord or terminating at a junction box within the room cabinet, and (7) provision for free conditioned air distribution, or when forced circulation is employed for minimal duct work having a total external static resistance not exceeding 1/10-inch water.

[12]For 1977, product code 35851 81 was included with product codes 35851 83 and 35851 84 to avoid disclosing operations of individual companies.

[13]Both quantity and value figures exclude systems assembled from purchased components and installed at passenger automobile assembly lines. In addition, for the systems shown, the values are understated because of the exclusion of compressors for some systems.

[14]Excludes quantity of air conditioning coils.

[15]For 1972, includes 6,718 remote condensor units valued at $11.2 million which could not be incorporated into the 1977 product categories.

[16]For 1972, product code 35853 36 was included with product code 35853 97 to avoid disclosing operations of individual companies.

[17]Represents only those compressors and compressor units produced and shipped separately. Includes units shipped for household refrigerators.

[18]For 1977, product code 35860 41 was combined with product code 35860 98 to avoid disclosing operations of individual companies.

[19]For 1972, product codes 35992 31, 35992 33, and 35992 37 were included with product code 35994 98.

[20]Consists principally of receipts for work done on materials owned by others. Some of receipts for such work done by other industries may have been reported as miscellaneous receipts.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35811, AUTOMATIC MERCHANDISING MACHINES		
United States	294.9	231.5
East North Central Division:		
Illinois	15.5	16.7
Pacific Division:		
California	17.9	11.1
35812, PARTS FOR AUTOMATIC MERCHANDISING MACHINES		
United States	84.3	61.1
East North Central Division:		
Illinois	10.0	EE
35851, HEAT TRANSFER EQUIPMENT		
United States	2,251.2	1,680.5
New England Division:		
Massachusetts	11.6	9.2
Connecticut	19.7	4.7
Middle Atlantic Division:		
Pennsylvania	82.8	58.7
East North Central Division:		
Ohio	170.5	275.1
Indiana	13.9	26.4
Illinois	106.4	69.8
Michigan	49.2	GG
West North Central Division:		
Minnesota	178.6	131.9
South Atlantic Division:		
Virginia	25.7	EE
East South Central Division:		
Kentucky	131.2	52.9
Tennessee	36.8	28.7
West South Central Division:		
Texas	179.1	143.6
Pacific Division:		
California	59.8	63.0
35852, UNITARY AIR CONDITIONERS (INCLUDING HEAT PUMPS)		
United States	1,673.0	1,070.6
Middle Atlantic Division:		
New Jersey	62.5	FF
Ohio	162.9	140.0
Illinois	77.8	FF
South Atlantic Division:		
Florida	13.0	AA
East South Central Division:		
Tennessee	413.8	CC
West South Central Division:		
Texas	279.1	GG
35853, COMMERCIAL REFRIGERATION EQUIPMENT		
United States	759.4	482.3
New England Division:		
Massachusetts	8.4	CC
Middle Atlantic Division:		
New York	35.1	FF
Pennsylvania	71.2	53.7
East North Central Division:		
Ohio	40.6	38.8
Illinois	69.6	38.4
Michigan	50.8	FF
Wisconsin	85.8	36.0
35853, COMMERCIAL REFRIGERATION EQUIPMENT--Con.		
West North Central Division:		
Minnesota	51.8	14.8
Missouri	72.5	64.6
East South Central Division:		
Alabama	14.8	BB
Mississippi	15.7	CC
West South Central Division:		
Texas	36.8	FF
Pacific Division:		
California	27.6	18.5
35854, COMPRESSORS AND COMPRESSOR UNITS		
United States	1,580.3	1,065.4
Middle Atlantic Division:		
Pennsylvania	15.2	EE
East North Central Division:		
Ohio	916.1	485.6
Indiana	18.5	GG
Wisconsin	30.9	22.4
35855, CONDENSING UNITS, ALL REFRIGERANTS		
United States	175.6	146.8
Middle Atlantic Division:		
Pennsylvania	13.2	5.6
West South Central Division:		
Texas	11.6	EE
Pacific Division:		
California	5.1	AA
35856, ROOM AIR CONDITIONERS AND DEHUMIDIFIERS		
United States	720.4	679.6
Middle Atlantic Division:		
New Jersey	119.3	88.3
East North Central Division:		
Ohio	77.7	132.1
Illinois	16.4	FF
Michigan	156.0	71.6
35857, OTHER REFERIGERATION AND AIR CONDITIONING EQUIPMENT, N.E.C.		
United States	712.2	570.3
New England Division:		
Massachusetts	7.0	CC
Middle Atlantic Division:		
New York	9.2	16.6
New Jersey	25.1	34.7
Pennsylvania	29.0	23.3
East North Central Division:		
Ohio	40.1	EE
Illinois	57.5	29.4
Michigan	40.2	GG
Wisconsin	34.1	21.7
West North Central Division:		
Minnesota	8.2	CC
Missouri	37.7	40.8
West South Central Division:		
Arkansas	52.5	BB
Texas	66.8	FF
Mountain Division:		
Colorado	8.1	EE
Pacific Division:		
California	6.7	11.6

See footnotes at end of table.

Table 6b. **Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35858, WARM AIR FURNACES AND PARTS, NONELECTRIC		
United States	378.4	384.2
Middle Atlantic Division:		
New York	15.5	11.6
East North Central Division:		
Ohio	81.7	93.2
Indiana	26.6	22.9
Wisconsin	6.1	AA
West North Central Division:		
Minnesota	8.8	BB
Missouri	9.6	FF
East South Central Division:		
Tennessee	47.1	39.4
35891, COMMERCIAL COOKING AND FOOD WARMING EQUIPMENT		
United States	386.0	217.0
Middle Atlantic Division:		
New York	12.7	11.4
New Jersey	8.9	9.1
Pennsylvania	5.6	6.5
East North Central Division:		
Ohio	19.5	6.6
Illinois	83.1	48.4
Wisconsin	13.1	2.5
West North Central Division:		
Missouri	17.6	CC
Pacific Division:		
California	54.8	FF
35892, SERVICE INDUSTRY MACHINES AND PARTS		
United States	1,059.2	496.5
New England Division:		
Massachusetts	22.0	CC
Connecticut	6.8	BB
Middle Atlantic Division:		
New York	22.6	14.7
New Jersey	65.4	23.9
Pennsylvania	64.4	35.9
East North Central Division:		
Ohio	82.3	48.2
Indiana	18.0	5.9
Illinois	163.5	86.8
Michigan	59.8	26.4
Wisconsin	80.5	35.5
West North Central Division:		
Minnesota	119.2	50.2
Iowa	16.7	3.7
Missouri	6.7	3.5
South Atlantic Division:		
Maryland	12.1	3.3
Virginia	7.0	BB
West Virginia	2.6	(NA)
North Carolina	10.1	CC
Georgia	7.0	1.4
Florida	11.2	9.2
East South Central Division:		
Tennessee	5.2	CC
West South Central Division:		
Arkansas	13.1	BB
Louisiana	2.2	(NA)
Texas	54.0	FF
Mountain Division:		
Colorado	14.4	BB
Arizona	2.8	(NA)
Pacific Division:		
California	110.0	FF
35893, COMMERCIAL AND INDUSTRIAL VACUUM CLEANERS		
United States	109.4	62.7
Middle Atlantic Division:		
New Jersey	2.4	AA
East North Central Division:		
Ohio	7.1	5.1
Illinois	11.1	6.1
Wisconsin	5.1	(NA)
35921, CARBURETORS, NEW AND REBUILT		
United States	642.0	355.3
Pacific Division:		
California	12.7	CC
35922, PISTONS AND PISTON RINGS, ENGINE		
United States	372.2	229.3
East North Central Division:		
Wisconsin	28.8	2.5
West North Central Division:		
Missouri	47.1	FF
West South Central Division:		
Texas	4.4	BB
Pacific Division:		
California	16.9	EE
35923, VALVES, INTAKE AND EXHAUST, ENGINE		
United States	257.5	196.6
Middle Atlantic Division:		
Pennsylvania	30.1	(NA)
35992, PNEUMATIC AND HYDRAULIC CYLINDERS		
United States	456.1	189.2
Middle Atlantic Division:		
New York	14.1	13.1
New Jersey	6.1	AA
Pennsylvania	6.3	AA
East North Central Division:		
Ohio	103.6	28.0
Indiana	12.9	11.8
Illinois	91.1	24.8
Michigan	42.9	31.1
Wisconsin	15.9	3.9
West North Central Division:		
Minnesota	8.1	BB
Iowa	30.9	16.2
Nebraska	8.9	4.4
Kansas	27.3	EE
Pacific Division:		
California	28.8	
35994, MISCELLANEOUS MACHINERY PRODUCTS, N.E.C.		
United States	676.9	442.5
New England Division:		
Massachusetts	25.1	11.0
Connecticut	36.7	21.3
Middle Atlantic Division:		
New York	53.5	21.7
New Jersey	18.0	14.1
Pennsylvania	62.7	26.2
East North Central Division:		
Ohio	59.5	41.4
Indiana	8.6	9.3
Illinois	80.8	58.0
Michigan	49.5	63.1
Wisconsin	16.8	17.6

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** – Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
35994, MISCELLANEOUS MACHINERY PRODUCTS, N.E.C.--Con.		
West North Central Division:		
Minnesota	7.8	9.8
Missouri	8.9	5.2
Kansas	12.1	7.1
South Atlantic Division:		
Maryland	6.3	6.5
North Carolina	4.5	5.1
Georgia	4.6	1.1
Florida	2.0	2.2
East South Central Division:		
Tennessee	21.6	8.8
West South Central Division:		
Louisiana	15.1	AA
Oklahoma	4.6	1.8
Texas	41.3	14.7
Mountain Division:		
Colorado	2.7	(NA)
Pacific Division:		
California	73.1	40.8
35995, RECEIPTS FOR MACHINE SHOP JOBWORK		
United States	3,338.1	1,425.8
New England Division:		
Maine	7.2	1.7
New Hampshire	13.1	3.9
Vermont	3.6	1.7
Massachusetts	110.6	55.9
Rhode Island	9.5	5.5
Connecticut	99.7	47.0
Middle Atlantic Division:		
New York	148.5	91.2
New Jersey	132.6	64.4
Pennsylvania	237.5	113.0
East North Central Division:		
Ohio	289.5	130.2
Indiana	82.6	44.2
Illinois	251.6	107.4
Michigan	259.3	89.7
Wisconsin	106.5	50.9

Product class and geographic area	Value of product shipments	
	1977	1972
35995, RECEIPTS FOR MACHINE SHOP JOBWORK--Con.		
West North Central Division:		
Minnesota	124.9	49.7
Iowa	21.8	5.9
Missouri	52.8	25.3
North Dakota	2.3	(NA)
Nebraska	5.7	(NA)
Kansas	35.9	12.1
South Atlantic Division:		
Delaware	2.8	BB
Maryland	43.4	16.8
Virginia	29.0	11.1
West Virginia	21.6	9.2
North Carolina	35.1	20.3
South Carolina	13.3	8.5
Georgia	22.1	8.0
Florida	41.3	22.9
East South Central Division:		
Kentucky	23.9	4.7
Tennessee	30.6	16.5
Alabama	38.5	7.4
Mississippi	10.3	5.2
West South Central Division:		
Arkansas	6.5	3.3
Louisiana	58.5	17.1
Oklahoma	28.0	16.6
Texas	229.4	82.8
Mountain Division:		
Idaho	4.9	(NA)
Wyoming	4.5	3.3
Colorado	27.3	9.4
New Mexico	13.3	4.0
Arizona	42.8	20.0
Utah	20.8	4.9
Pacific Division:		
Washington	63.9	26.7
Oregon	45.0	17.7
California	477.3	181.1
Hawaii	2.2	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not applicable. N.E.C. Not elsewhere classified.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3581-	Automatic merchandising machines	396.2	305.8	224.7	328.8	309.0	306.3	261.2	206.6
35811	Automatic merchandising machines	294.9	215.3	149.8	246.5	250.7	231.5	198.3	164.3
35812	Parts for automatic merchandising machines	84.3	88.9	72.3	80.4	48.5	61.1	45.5	32.8
35810	Automatic merchandising machines, n.s.k.	17.0	(S)	(S)	(1.9)	(9.8)	13.7	17.4	9.5
35820	Commercial laundry and dry cleaning equipment	233.6	202.2	183.7	202.8	226.8	185.3	(NA)	(NA)
3585-	Refrigeration and heating equipment	8,501.7	7,562.5	6,150.9	6,870.8	6,916.7	6,232.1	3,695.4	2,326.7
35851	Heat transfer equipment	2,251.2	2,178.8	1,858.5	1,929.1	1,827.2	1,680.5	903.2	(NA)
35852	Unitary air conditioners (including heat pumps)	1,673.0	1,426.0	1,025.2	1,322.7	1,289.4	1,070.6	530.1	(NA)
35853	Commercial refrigeration equipment	759.4	777.2	679.8	600.4	567.7	482.3	341.5	253.7
35854	Compressors and compressor units	1,580.3	1,420.9	1,103.6	1,233.3	1,290.8	1,065.4	494.5	269.4
35855	Condensing units, all refrigerants	175.6	160.9	121.7	193.8	179.6	146.8	73.3	73.5
35856	Room air conditioners and dehumidifiers	720.4	625.9	559.0	731.0	720.5	679.6	553.3	(NA)
35857	Other refrigeration and air condition equipment, n.e.c.	712.2	649.7	524.5	443.4	501.1	570.3	484.9	302.5
35858	Warm air furnaces and parts, nonelectric	378.4	309.3	269.5	308.5	403.8	384.2	226.4	222.1
35850	Refrigeration and heating equipment, n.s.k.	251.3	(S)	(S)	(108.6)	136.6	152.4	88.2	46.7
35860	Measuring, dispensing, and lubricating pumps	265.6	261.8	247.3	221.4	167.6	183.4	139.3	121.0
3589-	Service industry machinery, n.e.c.	1,687.6	1,157.8	932.2	959.2	960.0	864.4	539.8	341.5
35891	Commercial cooking and food warming equipment	386.0	377.1	303.5	290.8	247.9	217.0	158.2	107.0
35892	Service industry machines and parts	1,059.2	646.8	530.4	599.2	555.4	496.5	305.3	196.7
35893	Commercial and industrial vacuum cleaners	109.4	(133.4)	(98.3)	67.7	62.6	62.7	26.0	19.0
35890	Service industry machinery, n.e.c., n.s.k.	132.9	(S)	(S)	(1.5)	94.1	88.2	50.3	18.9
3592-	Carburetors, pistons, rings, and valves	1,298.5	1,120.1	897.6	890.0	922.1	793.9	512.7	(NA)
35921	Carburetors, new and rebuilt	642.0	545.2	419.3	402.1	431.4	355.3	189.9	[2]121.4
35922	Pistons and piston rings, engine	372.2	355.3	301.8	303.7	274.3	229.3	199.2	178.6
35923	Valves, intake and exhaust, engine	257.5	212.5	170.3	174.5	206.4	196.6	107.8	86.1
35920	Carburetors, pistons, rings, and valves, n.s.k.	26.9	(S)	(S)	(9.7)	10.0	12.7	15.8	([3])
3599-	Machinery, except electrical, n.e.c.	6,441.0	5,103.4	4,961.1	4,871.7	4,171.6	3,363.3	2,753.0	1,283.6
35992	Pneumatic and hydraulic cylinders	456.1	467.5	485.7	446.4	278.4	189.2	127.5	86.8
35994	Miscellaneous machinery products, n.e.c.	676.9	761.0	725.7	653.5	560.9	442.5	702.3	[2]782.8
35995	Receipts for machine shop jobwork	3,338.1	3,436.8	3,193.4	3,027.3	1,932.0	1,425.8	1,080.0	
35990	Machinery, except electrical, n.e.c., n.s.k.	1,969.9	(438.1)	556.3	744.5	1,400.3	1,305.8	843.2	[3]414.0

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]For 1963 and earlier years, rebuilt carburetors were included with product class 35994.

[3]For 1963 and earlier years, parts were included with product class 35990.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3581, AUTOMATIC MERCHANDISING MACHINES					
	Materials, parts, containers, and supplies		(X)	197.7	(X)	138.7
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	24.2	65.2	15.6
331012	Sheet and strip	1,000 s. tons				
331013	Plates	1,000 s. tons				
331015	Structural shapes	1,000 s. tons	(S)	6.9		
331017	Wire and wire products	1,000 s. tons				
331019	All other carbon steel mill shapes and forms	1,000 s. tons				
331020	Alloy steel, except stainless	1,000 s. tons	(D)	(D)	2.8	4.4
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	(S)	3.6		
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
335105	Copper and copper-base alloy mill shapes and forms	Million lb	(S)	.2	.4	.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb	(S)	1.2	.8	.5
335008	All other aluminum mill shapes and forms (wire, rod, bar, powder, welded tubing, extruded shapes, etc.)	Million lb	(S)	2.7	(S)	1.4
	Castings (rough and simifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons			.8	.3
	Produced and consumed	1,000 s. tons			(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(D)	(D)	.5	.4
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased	Million lb			(D)	(D)
	Produced and consumed	Million lb			(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(S)	2.1	459.1	1.5
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased	Thousands	(S)	10.4	(S)	4.7
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased	Thousands	-	-	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	X
356810	Plain bearings and bushings		(X)	.9	(X)	(2)
356601	Speed changers, drives, and gears				(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	6.7	(X)	[3]12.0
364300	Current-carrying wiring devices		(X)	4.9	(X)	[3]3.0
360101	Electrical transmission, distribution, and control equipment		(X)	10.8	(X)	(2)
358501	Compressors, compressor units, condensing units, fin coils, and other heat transfer equipment		(X)	7.1	(X)	[3]8.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes				(X)	(2)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	5.4	(X)	(2)
346901	Metal stampings		(X)	7.8	(X)	(2)
349402	Fabricated metal pipe, valves, and pipe fittings, except plumbers' fittings				(X)	(2)
339915	Metal powders	Million lb	(S)	2.6	(X)	(2)
970099	All other materials and components, parts, containers, and supplies		(X)	51.4	(X)	[2]69.9
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	46.7	(X)	15.4
	INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT					
	Materials, parts, containers, and supplies		(X)	96.1	(X)	59.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	.7	(S)	1.3
331012	Sheet and strip	1,000 s. tons	**9.7	3.7	11.3	2.5
331013	Plates	1,000 s. tons	(S)	.9	4.5	1.1
331015	Structural shapes	1,000 s. tons	(S)	.4	5.4	1.2
331017	Wire and wire products	1,000 s. tons	(S)	1.9		
331019	All other carbon steel mill shapes and forms	1,000 s. tons	[5]	[5]	(S)	.6
331020	Alloy steel	1,000 s. tons	1.5	2.8	2.3	3.1
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	[5](S)	[5]1.6		
331050	All other stainless steel mill shapes and forms	Million lb	(S)	.2	(S)	.5
335105	Copper and copper-base alloy mill shapes and forms					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb	(S)	.2	.2	.1
335008	All other aluminum mill shapes and forms (wire, rod, and bars, powder, welding tubing, extruded shapes, etc.)	Million lb	.6	.1	(S)	.2

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT--Con.					
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	(S)	2.2	3.9	2.2
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb			(D)	(D)
	Produced and consumed		(S)	1.0	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	(X)	(D)	(D)
	Produced and consumed	Million lb			(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	*17.9	.3	(S)	1.1
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		(S)	1.8	88.6	2.2
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	2.6	24.2	2.1
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
356810	Plain bearings and bushings		(X)	.8		
356601	Speed changers, drives, and gears		(X)	.8		
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	.5		
364300	Current-carrying wiring devices		(X)	1.0		
360101	Electrical transmission, distribution, and control equipment		(X)	1.3		
358501	Compressors, compressor units, condensing units, tin coils, and other heat transfer equipment		(X)	.3		
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes				(X)	29.2
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	.4		
346901	Metal stampings		(X)	1.3		
349402	Fabricated metal pipe, valves, and pipe fittings, except plumbers		(X)	.6		
339915	Metal powders	Million lb	-	-		
970099	All other materials and components, parts, containers, and supplies		(X)	24.3		
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	44.4	(X)	11.1
	INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT					
	Materials, parts, containers, and supplies		(X)	4,755.7	(X)	3,448.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	30.1	41.2	12.9
331012	Sheet and strip		*729.3	301.1	1,059.4	[5]235.8
331013	Plates		*43.3	16.1	43.0	9.5
331015	Structural shapes		(S)	4.9	15.7	4.3
331017	Wire and wire products		**15.1	9.1	24.9	8.6
331019	All other carbon steel mill shapes and forms		*91.3	42.0	83.7	26.0
331020	Alloy steel, except stainless		*19.7	17.9	53.7	13.4
	Stainless steel:					
331033	Sheet and strip		*23.7	42.9	28.9	33.8
331050	All other stainless steel mill shapes and forms	1,000 s. tons	**2.4	4.6	9.4	10.3
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content)	(S)	7.8	8.2	7.5
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb	*8.0	12.2	1.5	1.9
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	12.9	16.2	9.6
335143	Plate, sheet, and strip, including military cups and discs		289.2	265.2	145.3	91.0
335152	Pipe and tube				127.5	122.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*258.6	196.5	218.1	82.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*74.8	64.2	36.3	25.4
335008	All other aluminum mill shapes and forms, (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	**48.4	31.1	30.2	14.7
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	*232.3	185.2	237.4	100.8
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	7.6	(S)	5.7
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	43.1	72.6	30.8	33.3
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		**22.6	19.2	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
339915	Metal powders	Million lb	(S)	8.1	(D)	(D)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT--Con.					
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	22.9	21.7	24.9	14.0
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp)					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	3,439.7	72.1	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
362115	Fractional horsepower electric motors, excluding timing motors:					
	Purchased	Millions	*25.5	330.7	22.7	184.7
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		5.9	189.8	(S)	159.8
	Produced and consumed	Millions	(S)	(X)	(S)	(X)
358501	Compressors, compressor units, condensing units, fin coils, and other heat transfer equipment		(X)	554.3	(X)	364.9
	Bearings:					
356218	Ball		(X)	37.1	(X)	22.9
356201	Roller		(X)	12.2	(X)	5.8
260091	Paper and paperboard containers		(X)	57.7	(X)	48.0
242101	Rough and dressed lumber	Mil. board ft.	(S)	16.2	(X)	[3]15.0
244021	Wooden containers, complete, including combination wood and paperboard		(X)	19.1	(X)	[3]13.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes		(X)	43.8	(X)	([2])
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	26.6	(X)	[3]18.0
286903	Refrigerant gases and other synthetic organic chemicals		(X)	27.0	(X)	[3]22.0
307902	Fabricated plastics products, except gaskets		(X)	56.4	(X)	[3]49.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	28.1	(X)	([2])
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	24.4	(X)	[3]35.0
329601	Mineral wool insulation (fibrous glass, rock wool, etc.)		(X)	19.4	(X)	[3]13.0
342903	Metal hardware, including hinges, handles, locks, casters, etc		(X)	19.7	(X)	[3]24.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products		(X)	74.7	(X)	[3]46.0
346901	Metal stampings		(X)	127.5	(X)	[3]85.0
349402	Fabricated metal pipe, valves, and pipe fittings		(X)	66.0	(X)	[3]141.0
356401	Fans and blowers	Thousands	(S)	55.1	(X)	[2]51.0
360101	Electrical transmission, distribution, and control equipment		(X)	111.9	(X)	([2])
364300	Current-carrying wiring devices		(X)	39.7	(X)	[3]22.0
382201	Automatic temperature controls, thermostats, regulators, etc		(X)	130.2	(X)	[3]39.0
970099	All other materials and components, parts, containers, and supplies		(X)	1,004.5	(X)	[2]937.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	266.6	(X)	200.2
	INDUSTRY 3586, MEASURING AND DISPENSING PUMPS					
	Materials, parts, containers, and supplies		(X)	142.3	(X)	90.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	11.1	7.8	9.5	2.6
331012	Sheet and strip		13.9	6.9	13.0	2.3
331013	Plates				(D)	(D)
331015	Structural shapes		.6	.3	(D)	(D)
331019	All other carbon steel mill shapes and forms		3.6	1.2	(D)	(D)
	Alloy steel, except stainless:					
331021	Bars and bar shapes		1.0	.4	(D)	(D)
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip		.9	1.8	23.2	1.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	.8	.5	.6
	Copper and copper-base alloy:					
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content)	(Z)	.2	.1	.1
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	.8	(D)	(D)
335143	Plate, sheet, and strip, including military cups and discs		(S)	.2		
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		1.3	.8	.4	.4
335008	All other aluminum and aluminum-base alloy mill shapes and forms (sheet, plate, foil, wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	.2	(Z)	(Z)
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 s. tons	-	-	(X)	([2])
333122	Copper and copper-base alloy refinery shapes		-	-	(X)	([2])
999811	Iron and steel scrap, excluding home scrap		-	-	(Z)	(Z)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased				14.0	3.8
	Produced and consumed		**8.7	7.3	(S)	(X)
332045	Steel:		(S)	(X)		
	Purchased				.1	.2
	Produced and consumed	1,000 s. tons			(S)	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3586, MEASURING AND DISPENSING PUMPS--Con.					
	Castings (rough and semifinished)--Con.					
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.			3.0	2.6
	Produced and consumed		**3.2	4.9	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	(X)	.1	.2
	Produced and consumed	Million lb.			(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons.	(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons.	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands	-	-	(2)	(2)
	Produced and consumed		(S)	(X)	(2)	(2)
351901	Gasoline and other carburetor engines:					
	Purchased		-	-	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
	Electric motors and generators:					
362115	Fractional horsepower electric motors (under 1 hp), excluding timing motors:					
	Purchased		**189.8	6.6	143.9	4.2
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		4.7	.4	6.3	1.3
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	.8	(X)	.5
356201	Roller		(X)	.1		
356810	Plain bearings and bushings		(X)	.4		
356601	Speed changers, drives, and gears					
306902	Fabricated rubber products, except tires, tubes, belts, hosing, and gaskets		(X)	.7		
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons.	-	-		
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	3.9		
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products, fabricated steel plate and weldments		(X)	.6		
349402	Fabricated metal pipe, valves, and pipe fittings		(X)	.9		
307902	Fabricated plastics products, except gaskets		(X)	3.0	(X)	260.4
356101	Pumps and pump parts used as materials	Thousands	(S)	.9		
356301	Air and gas compressors, except refrigeration	Thousands				
360101	Electrical transmission, distribution, and control equipment		(X)	.5		
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	.9		
354501	Cutting tools for machine tools		(X)	.4		
339915	Metal powders	Million lb.	(Z)	(Z)		
970099	All other materials and components, parts, containers, and supplies		(X)	78.6		
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	9.8	(X)	4.7
	INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.					
	Materials, parts, containers, and supplies		(X)	752.0	(X)	370.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons.	(S)	6.6	14.2	4.0
331012	Sheet and strip		(S)	27.9	72.3	14.6
331013	Plates		(S)	13.9	18.6	4.8
331015	Structural shapes		(S)	4.7	(S)	2.1
331017	Wire and wire products		(S)	2.0	5.1	2.4
331019	All other carbon steel mill shapes and forms		**20.9	10.7	(S)	2.9
331020	Alloy steel, except stainless		(S)	2.2	9.0	6.0
	Stainless steel:					
331033	Sheet and strip		*18.8	29.3	(S)	17.5
331050	All other stainless steel mill shapes and forms	1,000 s. tons.	(S)	13.6		
335105	Copper and copper-base alloy mill shapes and forms	Million lb.	*.5	.5	(S)	1.8
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	2.5	(S)	2.2
335008	All other aluminum mill shapes and forms (wire, rod and bar, powder, welding tubing, extruded shapes, etc.)	Million lb.	(S)	6.8	(S)	4.3
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons.	**12.5	14.1	23.2	10.6
	Produced and consumed	1,000 s. tons.	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	(S)	12.2	4.3	3.6
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		3.1	2.5	(S)	2.4
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.--Con.					
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors synchronous and subsynchronous:					
	Purchased	Thousands	*770.2	10.0	(S)	6.2
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		*1,102.3	24.8	418.3	8.3
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		**98.1	10.0	136.6	11.7
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
356810	Plain bearings and bushings		(X)	3.2	(X)	[3]8.0
356601	Speed changers, drives, and gears		(X)	5.0		
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	7.6	(X)	[3]6.0
364300	Current-carrying wiring devices		(X)	9.9	(X)	[3]13.0
360101	Electrical transmission, distribution, and control equipment		(X)	11.2	(X)	([2])
358501	Compressors, compressor units, condensing units, tin coils, and other heat transfer equipment		(X)	5.6	(X)	([2])
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	9.9	(X)	([2])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	*15.7	9.1	(X)	[3]10.0
346901	Metal stampings		(X)	2.9	(X)	[3]13.0
349402	Fabricated metal pipe, valves, and pipe fittings, except plumbers'		(S)	13.5	(X)	[3]16.0
339915	Metal powders	Million lb			(X)	([2])
970099	All other materials and components, parts, containers, and supplies		(X)	273.1	(X)	[2]140.8
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	206.7	(X)	57.9
	INDUSTRY 3592, CARBURETORS, PISTONS, RINGS, AND VALVES					
	Materials, parts, containers, and supplies		(X)	451.9	(X)	244.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	18.4	13.1	15.3	5.6
331012	Sheet and strip		27.4	16.7	54.6	11.9
331013	Plates		.7	.2		
331015	Structural shapes				4.2	1.7
331017	Wire and wire products		8.4	9.2		
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		12.4	13.1	12.4	12.3
331029	All other alloy steel mill shapes and forms		**2.1	3.3	3.8	2.6
	Stainless steel:					
331033	Sheet and strip		*.7	1.8	1.4	2.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons	15.5	28.4	.9	2.1
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	2.7	2.2	1.5	1.6
335143	Plate, sheet, and strip, including military cups and discs		*.4	1.2		
335152	Pipe and tube				(Z)	(Z)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		13.3	7.5	26.9	12.2
335405	Extruded shapes, including rod, bar, pipe, tube, etc					
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		31.0	16.7		
335609	Nonferrous metal, except copper and aluminum	Million lb	(D)	.6	(D)	([2])
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	*42.3	59.0	34.0	25.7
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*3.6	3.7	.5	.7
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	**37.2	21.8	(S)	8.9
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	2.0	(S)	1.5
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	16.9	(X)	[2]147.6
970099	All other materials and components, parts, containers, and supplies		(X)	218.0		
971000	Materials, parts, containers, supplies, n.s.k.[4]		(X)	16.5	(X)	7.5

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity[1]	1972 Delivered cost (million dollars)
	INDUSTRY 3599, MACHINERY, EXCEPT ELECTRICAL, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	1,777.0	(X)	928.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	101.7	190.2	58.0
331012	Sheet and strip		(S)	32.0	87.9	21.8
331013	Plates		(S)	44.9	84.4	23.2
331015	Structural shapes		(S)	9.6	48.2	11.9
331017	Wire and wire products		**7.3	4.4	9.6	3.2
331019	All other carbon steel mill shapes and forms		**47.2	36.7	54.1	22.7
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	34.5	27.6	16.7
331029	All other alloy steel mill shapes and forms		(S)	14.3	11.3	6.9
	Stainless steel:					
331033	Sheet and strip		(S)	21.4	5.3	11.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	**20.4	43.5	11.9	21.8
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	9.6	10.4	7.9
335143	Plate, sheet, and strip, including military cups and discs		(S)	2.8	1.6	1.8
335152	Pipe and tube		(S)	4.2	5.1	5.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	14.8	(S)	8.0
335405	Extruded shapes, including rod, bar, pipe, tube, etc		(S)	16.7	(S)	8.1
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)		(S)	6.2	5.2	5.1
335609	Nonferrous metal, except copper and aluminum	Million lb.....	(S)	5.7	(X)	([2])
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons..	(S)	47.2	42.8	24.6
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	24.9	19.5	16.6
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	17.2	(S)	10.0
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	6.8	(S)	2.8
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	13.6	(X)	[2]175.8
970099	All other materials and components, parts, containers, and supplies	.....	(X)	296.9		
971000	Materials, parts, containers, supplies, n.s.k.[4]	.....	(X)	967.4	(X)	465.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publications standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated. ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, these materials were included with material code 970099.

[3]From 1972 Census of Manufactures Supplemental Inquiry: Comsumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1977, material codes 331020 and 332050 were combined to avoid disclosing operations of individual companies.

Electrical Measurement and Distribution Equipment

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DESCRIPTION OF INDUSTRIES

ELECTRICAL MEASUREMENT AND DISTRIBUTION EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3612 Transformers
3613 Switchgear and Switchboard Apparatus
3621 Motors and Generators
3622 Industrial Controls
3623 Welding Apparatus, Electric
3624 Carbon and Graphite Products
3629 Electrical Industrial Apparatus, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3612, TRANSFORMERS

This industry comprises establishments primarily engaged in the manufacture of power distribution, instrument, and specialty transformers. Establishments primarily engaged in the manufacture of radio frequency or voice frequency transformers, coils, or chokes are classified in industry 3677, and resistance welder transformers in Industry 3623.

The total value of shipments for establishments classified in the Transformers industry amounted to $2,202 million in 1977, an increase of 51 percent from 1972. The value of shipments of products classified as primary to the industry was $2,118 million, an increase of 47 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were power and distribution transformers, for which shipments increased 45 percent, and specialty transformers, for which shipments increased 52 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,163 million in 1977, was 54 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 43.3 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were Pennsylvania, Wisconsin, Massachusetts, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment. Data for Pennsylvania and Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of fluorescent lamp ballasts only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of fluorescent lamp ballasts are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-36C, Fluorescent Lamp Ballasts. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3613, SWITCHGEAR AND SWITCHBOARD APPARATUS

This industry comprises establishments primarily engaged in the manufacture of switchgear and switchboard apparatus. Important products of this industry include power switches, circuit breakers, power switching equipment, and similar switchgear for general industrial application; switchboards and cubicles, control and metering panels, power fuse mountings; and similar switchboard apparatus and supplies. Establishments primarily engaged in the manufacture of industrial controls are classified in industry 3622, and those manufacturing current-carrying wiring devices in industry 3643.

The total value of shipments for establishments classified in the Switchgear and Switchboard Apparatus industry amounted

to $3,541 million in 1977, an increase of 67 percent from 1972. The value of shipments of products classified as primary to the industry was $3,298 million, an increase of 60 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were control circuit relays for which shipments increased 59 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,152 million in 1977, was 65 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 71.4 thousand employees, an increase of 3 percent from 1972. The leading States in employment were Pennsylvania, California, Illinois, and New Jersey, accounting for approximately 45 percent of the industry's 1977 employment. Data for Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of most types of switchgear and switchboard apparatus only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of switchgear and switchboard apparatus are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36A, Switchgear, Switchboard Apparatus, Relays and Industrial Controls. Some of these data are also shown in table 6a.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3621, MOTORS AND GENERATORS

This industry comprises establishments primarily engaged in the manufacture of electric motors (except starting motors) and power generators; motor generator sets; railway motors and control equipment; and motors, generators, and control equipment for gasoline, electric, and oil electric buses and trucks. Establishments primarily engaged in the maufacture of turbogenerators are classified in industry 3511, and starting motors and battery charging generators for internal combustion engines in industry 3694.

The total value of shipments for establishments classified in the Motors and Generators industry amounted to $4,459 million in 1977, an increase of 77 percent from 1972. The value of shipments of products classified as primary to the industry was $4,976 million, an increase of 89 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were fractional horsepower motors, for which shipments increased 72 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $2,607 million in 1977, was 77 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 96.9 thousand employees, an increase of 7 percent from 1972. The leading States in employment were New York, Ohio, Indiana, and Arkansas, accounting for approximately 32 percent of the industry's 1977 employment. Data for Arkansas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972 when they accounted for approximately 48 percent of the industry's employment although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of motors and generators only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of motors and generators are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36H, Motors and Generators. Some of these data are also shown in table 6a.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3622, INDUSTRIAL CONTROLS

This industry comprises establishments primarily engaged in the manufacture of motor starters and controllers; control accessories, electronic controls, and other industrial controls. Establishments primarily engaged in the manufacture of automatic temperature controls are classified in industry 3822, and industrial process instruments in industry 3823.

The total value of shipments for establishments classified in the Industrial Controls industry amounted to $2,515 million in 1977, an increase of 79 percent from 1972. The value of shipments of products classified as primary to the industry was $2,429 million, an increase of 95 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were a.c. full voltage starters, 600 volts or less, for which shipments increased 92 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,604 million in 1977, was 79 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 55.5 thousand employees, an increase of 10 percent from 1972. The leading States in employment were Wisconsin, Illinois, Ohio, and North Carolina, accounting for approximately 45 percent of the industry's 1977 employment. This represents a shift from 1972 when Wisconsin, Illinois, Ohio, and New York accounted for approximately 49 percent of the industry's employment.

The 1977 census obtained data on shipments of industrial controls only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of industrial controls are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls. Some of these data are also shown in table 6a.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3623, WELDING APPARATUS, ELECTRIC

This industry comprises establishments primarily engaged in the manufacture of electric welding apparatus and accessories. Establishments primarily engaged in coating welding wire from purchased wire or from wire drawn in the same establishment are also included. Establishments primarily engaged in the manufacture of gas welding apparatus are classified in industry 3549, and laser; electron beam, and ultrasonic welding machines and equipment in industry 3662.

The total value of shipments for establishments classified in the Welding Apparatus, Electric industry amounted to $1,191 million in 1977, an increase of 81 percent from 1972. The value of shipments of products classified as primary to the industry was $1,035 million, an increase of 82 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were arc welding machines, for which shipments increased 87 percent, and arc welding electrodes, for which shipments increased 108 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $583 million in 1977, was 65 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 17.5 thousand employees, an increase of 13 percent from 1972. The leading States in employment were Ohio, Michigan, Wisconsin, and Pennsylvania, accounting for approximately 49 percent of the industry's 1977 employment. Data for Wisconsin have been withheld to avoid disclosing operations of individual companies.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3624, CARBON AND GRAPHITE PRODUCTS

This industry comprises establishments primarily engaged in the manufacture of lighting carbons; carbon, graphite, and metal graphite brushes and brush stocks; carbon or graphite electrodes for thermal and electrolytic uses; and other carbon, graphite, and metal graphite products.

The total value of shipments for establishments classified in the Carbon and Graphite Products industry amounted to $735 million in 1977, an increase of 95 percent from 1972. The value of shipments of products classified as primary to the industry was $663 million, an increase of 97 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were electrodes, for which shipments increased 164 percent. Value added by manufacture, at $408 million in 1977, was 88 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.1 thousand employees, an increase of 7 percent from 1972. The leading States in employment were Pennsylvania, New York, Ohio, and North Carolina, accounting for approximately 60 percent of the industry's 1977 employment. Data for North Carolina have been withheld to avoid disclosing operations of individual companies.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3629, ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of industrial and commercial electric apparatus and equipment, not elsewhere classified, such as blasting machines, and fixed and variable capacitors, condensers, and rectifiers for industrial application. Establishments primarily engaged in the manufacture of condensers, capacitors, and rectifiers for electronic end products are classified in industry group 367.

The total value of shipments for establishments classified in

the Electrical Industrial Apparatus, N.E.C. industry amounted to $692 million in 1977, an increase of 54 percent from 1972. The value of shipments of products classified as primary to the industry was $700 million, an increase of 58 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were rectifying apparatus, except for electronic application, for which shipments increased 103 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $411 million in 1977, was 52 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 16.5 thousand employees, a decrease of 18 percent from 1972. The leading States in employment were Ohio, New York, Illinois, and Indiana, accounting for approximately 32 percent of the industry's 1977 employment. Data for New York and Illinois have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3612, TRANSFORMERS																
1977 Census--	229	279	143	43.3	529.6	32.8	62.5	349.8	1 162.7	1 061.8	2 201.8	67.2	(NA)	385.8	95	97
1976 ASM----	(NA)	(NA)	(NA)	38.8	437.4	28.9	53.2	285.1	939.7	872.9	1 812.0	32.6	574.1	326.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	40.3	444.7	29.7	56.2	290.4	916.6	854.6	1 805.2	35.2	591.4	321.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	49.6	500.6	38.4	75.3	353.7	1 006.4	1 009.5	1 974.5	47.2	569.8	385.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	50.7	466.4	39.8	78.4	326.4	890.2	804.0	1 663.1	36.4	544.3	319.6	(NA)	(NA)
1972 Census--	168	216	136	46.8	420.2	35.6	71.3	286.1	757.3	700.5	1 461.9	26.8	524.1	258.7	96	97
1971 ASM----	(NA)	(NA)	(NA)	45.7	389.1	34.1	66.6	256.9	723.7	644.6	1 376.0	27.2	514.1	265.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	49.3	394.4	37.6	73.9	265.6	767.2	658.8	1 392.7	53.3	497.8	279.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	47.3	363.4	35.7	72.5	238.5	743.1	592.3	1 352.6	46.4	436.7	250.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	47.6	349.8	35.5	72.9	230.9	750.6	559.8	1 315.9	44.2	467.5	258.8	(NA)	(NA)
1967 Census--	150	190	122	45.6	317.6	34.0	68.5	210.1	678.9	531.8	1 189.2	52.8	399.5	240.3	95	98
1966 ASM----	(NA)	(NA)	(NA)	41.5	281.4	30.6	61.5	183.0	584.4	468.6	1 053.0	40.8	(NA)	204.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	37.3	252.6	27.1	56.5	161.6	516.7	423.4	921.8	19.4	(NA)	187.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	35.1	227.2	25.6	52.4	145.1	442.7	375.0	805.3	13.8	301.4	153.4	(NA)	(NA)
1963 Census--	144	177	99	33.4	209.5	23.6	46.9	129.6	381.5	337.0	722.9	13.2	289.5	134.9	92	94
INDUSTRY 3613, SWITCHGEAR AND SWITCHBOARD APPARATUS																
1977 Census--	541	667	315	71.4	896.1	51.7	99.1	556.8	2 151.8	1 429.8	3 541.0	73.1	(NA)	647.5	91	91
1976 ASM----	(NA)	(NA)	(NA)	65.3	755.9	45.9	85.6	462.1	1 761.8	1 144.6	2 876.0	52.6	700.3	568.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	64.7	709.2	44.5	82.5	428.5	1 575.3	1 046.3	2 660.9	33.9	661.9	526.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	73.2	743.7	53.2	104.0	474.5	1 629.6	1 102.3	2 668.7	57.3	626.5	591.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	74.4	704.0	53.8	107.1	446.7	1 514.2	994.9	2 461.9	48.1	564.6	504.2	(NA)	(NA)
1972 Census--	463	568	283	69.2	619.8	49.6	97.1	388.5	1 303.0	844.2	2 123.5	36.9	530.2	413.1	91	89
1971 ASM----	(NA)	(NA)	(NA)	65.6	566.0	46.5	92.3	353.0	1 212.6	774.8	1 997.8	34.9	489.4	401.4	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	67.4	546.1	48.0	95.7	343.3	1 159.5	748.1	1 886.9	38.7	456.2	396.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	67.5	513.8	48.8	98.3	321.1	1 137.3	713.3	1 831.5	46.0	425.3	377.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	64.7	465.5	46.4	93.4	289.2	1 010.8	665.4	1 669.1	41.7	394.9	326.2	(NA)	(NA)
1967 Census--	398	482	283	68.5	488.0	49.7	100.5	304.9	1 030.3	669.7	1 690.0	39.1	392.5	338.2	89	90
1966 ASM----	(NA)	(NA)	(NA)	64.7	449.3	46.8	96.8	278.6	972.1	607.7	1 549.0	32.1	(NA)	310.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	57.6	386.2	40.7	83.5	236.1	797.2	513.4	1 299.3	26.0	(NA)	254.3	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	55.9	366.6	38.0	79.3	217.4	706.1	489.9	1 175.4	20.6	302.9	238.1	(NA)	(NA)
1963 Census--	338	400	214	54.0	338.9	38.1	76.9	204.9	647.8	452.2	1 093.7	18.2	283.8	210.6	87	89
INDUSTRY 3621, MOTORS AND GENERATORS																
1977 Census--	340	446	298	96.9	1 176.7	74.1	145.7	802.1	2 606.9	1 915.9	4 458.7	160.9	(NA)	770.3	92	80
1976 ASM----	(NA)	(NA)	(NA)	90.7	1 009.1	70.7	137.2	691.7	2 194.8	1 601.8	3 726.5	131.5	1 263.3	638.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	82.0	850.9	60.6	118.7	567.6	1 719.4	1 364.1	3 137.2	94.3	1 130.0	547.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	100.2	957.7	77.7	152.5	654.1	1 923.6	1 553.0	3 383.3	117.9	1 047.4	679.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	100.6	900.8	79.0	156.9	630.0	1 720.6	1 295.0	2 989.0	85.3	988.2	565.1	(NA)	(NA)
1972 Census--	325	426	258	90.3	764.4	69.2	139.3	516.9	1 475.2	1 054.8	2 501.7	58.9	938.5	466.8	91	81
1971 ASM----	(NA)	(NA)	(NA)	93.7	783.6	70.1	140.0	516.2	1 389.5	1 059.3	2 472.0	104.7	1 077.0	483.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	103.9	814.8	78.3	154.2	543.8	1 459.9	1 061.4	2 468.9	103.2	971.9	495.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	109.4	820.3	82.7	169.0	555.5	1 472.1	1 079.5	2 541.8	100.1	880.1	486.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	109.4	780.0	82.6	168.0	522.5	1 436.3	1 005.9	2 436.0	94.1	828.7	463.1	(NA)	(NA)
1967 Census--	320	409	279	112.8	764.6	85.3	172.3	514.4	1 430.8	977.5	2 402.3	102.5	761.5	457.4	83	83
1966 ASM----	(NA)	(NA)	(NA)	112.3	730.0	87.2	174.3	494.3	1 365.7	968.7	2 288.8	84.3	(NA)	445.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	102.0	662.2	76.7	156.8	448.3	1 178.8	868.5	2 043.8	64.8	(NA)	375.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	94.9	609.8	69.2	141.9	392.8	1 097.8	743.8	1 820.0	42.4	574.4	348.6	(NA)	(NA)
1963 Census--	316	384	244	94.2	583.2	68.7	140.2	378.8	993.2	715.2	1 709.8	35.8	552.4	321.5	81	84
INDUSTRY 3622, INDUSTRIAL CONTROLS																
1977 Census--	675	727	284	55.5	727.5	35.4	69.1	380.6	1 604.2	963.3	2 514.6	57.6	(NA)	616.8	87	86
1976 ASM----	(NA)	(NA)	(NA)	56.4	682.2	36.9	70.3	376.9	1 422.0	925.0	2 326.2	55.7	562.5	559.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	57.1	646.0	36.4	69.3	352.3	1 273.9	843.2	2 133.4	41.6	567.4	529.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	63.9	661.8	43.6	86.0	389.9	1 346.1	875.6	2 172.4	48.1	542.9	535 3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	57.2	556.1	38.4	76.0	307.8	1 097.7	688.7	1 729.9	36.2	508 6	413.3	(NA)	(NA)
1972 Census--	544	588	216	51.1	465.6	33.4	66.6	257.1	908.4	555.4	1 424.1	46.8	493.7	331.8	79	84
1971 ASM----	(NA)	(NA)	(NA)	45.1	395.1	29.0	55.2	213.9	738.8	408.0	1 156.9	27.1	395.9	246.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	48.1	394.9	30.8	59.6	213.8	768.9	407.7	1 170 8	31.2	387.6	264 9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	55.2	425.2	36.7	73.1	237.4	814.1	428.8	1 228.2	67.4	414.1	272 8	(NA)	(NA)
1968 ASM[6]---	(NA)	(NA)	(NA)	51.9	373.6	27.8	66.3	207.9	721.9	390.6	1 121.4	50.1	326.9	239.8	(NA)	(NA)
1967 Census--	456	476	169	50.4	350.9	34.8	69.6	210.7	720.9	388.6	1 102 8	34 3	296.9	224.2	83	81
1966 ASM----	(NA)	(NA)	(NA)	45.9	325.1	31.5	66.0	195.7	718.5	368.3	1 049.0	31.9	(NA)	221.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	39.4	268.8	26.8	55.5	162 6	582.6	284.9	846.3	22.6	(NA)	166 0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	34.9	235.2	24.2	48.0	139.2	502.8	246.2	732.5	19.4	205.0	142 5	(NA)	(NA)
1963 Census--	421	427	118	33.0	214.6	22.8	44.9	125.4	450.5	207.6	648 7	15 4	189 1	118 9	79	79

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3623, WELDING APPARATUS, ELECTRIC																
1977 Census--	161	176	88	17.5	285.7	11.3	23.0	165.1	582.7	634.2	1 191.2	38.7	(NA)	258.3	86	94
1976 ASM----	(NA)	(NA)	(NA)	16.1	236.8	10.6	21.0	138.4	481.9	523.2	1 001.8	19.2	215.3	218.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.0	238.2	11.0	22.3	141.1	511.5	525.4	1 039.6	18.7	203.7	221.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	18.2	236.9	12.3	25.8	145.2	522.9	523.0	1 008.9	18.2	191.6	233.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	16.2	192.3	10.8	23.2	120.3	374.0	375.4	748.1	11.5	185.4	160.2	(NA)	(NA)
1972 Census--	154	166	80	15.5	173.9	9.8	20.9	102.5	353.5	314.2	659.6	11.4	181.1	149.3	84	92
1971 ASM----	(NA)	(NA)	(NA)	12.7	140.3	7.6	16.5	75.8	261.5	243.7	503.6	5.0	171.6	123.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	14.3	143.9	9.0	18.6	79.7	255.7	251.6	509.8	10.0	169.2	115.2	(NA)	(NA)
1969 ASM[6]---	(NA)	(NA)	(NA)	15.0	146.6	9.8	20.6	88.7	276.4	250.6	526.1	16.3	137.0	102.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	13.8	128.4	9.4	19.2	77.1	251.9	226.8	486.4	15.4	132.2	91.4	(NA)	(NA)
1967 Census--	133	147	92	13.7	118.4	9.4	19.8	72.9	265.3	237.8	493.3	18.1	129.5	98.5	91	94
1966 ASM----	(NA)	(NA)	(NA)	14.4	116.4	10.1	21.7	73.4	264.5	282.5	533.8	9.9	(NA)	102.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.6	103.5	8.5	19.5	62.8	210.8	238.4	446.5	11.1	(NA)	80.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.4	91.9	7.8	18.1	57.8	192.6	201.4	389.4	6.8	88.8	71.5	(NA)	(NA)
1963 Census--	133	149	75	9.6	72.1	6.6	14.1	44.6	162.4	168.6	330.2	5.4	83.3	56.7	93	89
INDUSTRY 3624, CARBON AND GRAPHITE PRODUCTS																
1977 Census--	58	74	48	12.1	164.1	9.0	17.7	110.9	408.4	337.5	735.2	35.4	(NA)	215.9	94	93
1976 ASM----	(NA)	(NA)	(NA)	12.0	152.8	8.9	16.8	102.2	399.3	339.1	691.4	63.3	499.6	211.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	11.3	128.5	8.3	15.6	86.4	375.1	244.9	594.2	61.1	440.0	154.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	12.6	134.9	9.6	19.3	96.6	342.5	278.5	613.0	22.1	377.3	123.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	12.2	115.8	9.5	19.2	84.6	264.5	190.3	452.5	20.0	370.0	102.7	(NA)	(NA)
1972 Census--	58	72	44	11.3	99.6	8.6	16.7	70.9	217.4	158.2	377.4	20.2	358.9	98.4	95	98
1971 ASM----	(NA)	(NA)	(NA)	11.1	92.7	8.4	16.5	66.0	218.7	144.2	359.0	17.6	329.5	91.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	12.0	96.4	9.2	18.5	69.4	245.5	139.6	372.0	15.4	314.7	88.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	11.3	86.3	8.8	17.2	62.1	207.5	123.5	333.4	15.6	288.5	72.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	11.3	79.7	8.7	17.2	56.9	182.5	113.7	293.7	22.5	281.5	71.3	(NA)	(NA)
1967 Census--	49	65	42	11.9	82.8	9.1	18.5	57.8	186.3	117.8	296.4	41.3	263.8	69.4	96	96
1966 ASM----	(NA)	(NA)	(NA)	10.8	73.9	8.4	17.0	51.7	175.1	112.1	283.2	21.0	(NA)	61.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	10.3	68.3	8.0	16.5	48.6	168.0	100.9	267.2	15.5	(NA)	57.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	10.9	70.0	8.3	16.9	48.8	152.5	96.0	245.2	12.5	200.0	53.8	(NA)	(NA)
1963 Census--	40	53	40	10.0	62.0	8.0	16.1	44.1	141.4	84.8	226.9	11.4	185.3	50.2	93	96
INDUSTRY 3629, ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.																
1977 Census--	214	223	102	16.5	188.6	12.2	23.4	113.4	411.0	294.0	692.4	16.8	(NA)	140.0	87	81
1976 ASM----	(NA)	(NA)	(NA)	19.6	203.0	14.2	27.1	132.1	417.9	301.6	706.9	19.3	205.4	156.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.4	166.0	12.3	24.4	96.6	329.2	257.0	593.9	17.4	188.6	140.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	22.5	193.9	16.6	32.7	120.8	397.3	298.7	683.8	15.9	186.9	177.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	23.7	199.0	16.9	34.5	115.1	340.4	310.0	634.0	21.8	140.7	127.7	(NA)	(NA)
1972 Census--	245	258	121	20.2	165.0	13.5	26.0	89.4	270.0	187.4	449.4	11.2	137.6	99.2	85	80
1971 ASM----	(NA)	(NA)	(NA)	20.5	158.7	13.4	25.6	79.3	276.3	151.2	438.3	10.6	160.9	89.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	19.0	131.5	14.2	27.1	82.1	245.1	167.2	409.9	9.6	119.0	94.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	20.5	140.5	15.3	30.4	88.4	259.2	189.9	445.6	10.1	119.7	91.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	20.2	129.2	15.4	29.9	84.6	253.1	179.6	428.6	10.3	112.3	85.8	(NA)	(NA)
1967 Census--	212	219	123	17.9	103.7	14.0	27.4	69.2	188.3	141.3	328.8	12.3	102.1	71.3	84	67
1966 ASM----	(NA)	(NA)	(NA)	20.5	112.8	16.4	31.6	76.0	212.1	164.0	369.4	13.8	(NA)	72.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	16.3	87.8	12.6	25.4	57.3	154.7	134.7	288.2	8.0	(NA)	51.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.5	76.0	11.2	21.8	49.3	134.5	103.8	242.8	4.2	56.9	40.9	(NA)	(NA)
1963 Census--	226	231	109	14.0	73.0	10.9	21.0	47.7	141.6	100.1	238.3	4.0	53.5	42.9	80	72

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3612, TRANSFORMERS											
1977 Census--	12 235	(NA)	75	1 905	5.59	48	72	(NA)	26 862	45	18.61
1976 ASM----	11 273	14 796	74	1 840	5.35	48	72	31	24 219	46	17.66
1975 ASM----	11 034	14 674	73	1 892	5.16	47	71	32	22 744	49	16.31
1974 ASM----	10 092	11 487	77	1 960	4.69	51	76	28	20 290	49	13.36
1973 ASM----	9 199	10 735	78	1 969	4.16	48	76	32	17 558	52	11.35
1972 Census--	8 978	11 198	76	2 002	4.01	47	76	35	16 181	55	10.62
1971 ASM----	8 514	11 249	74	1 953	3.85	46	75	37	15 835	53	10.86
1970 ASM----	8 000	10 097	76	1 965	3.59	47	75	35	15 561	51	10.38
1969 ASM----	7 682	9 232	75	2 030	3.28	43	70	32	15 710	48	10.24
1968 ASM----	7 348	9 821	74	2 053	3.16	42	69	35	15 768	46	10.29
1967 Census--	6 964	8 760	74	2 014	3.06	45	71	34	14 888	46	9.91
1966 ASM----	6 780	(NA)	73	2 009	2.97	44	71	(NA)	14 081	48	9.50
1965 ASM----	6 772	(NA)	72	2 084	2.86	45	73	(NA)	13 852	48	9.14
1964 ASM----	6 472	8 586	72	2 046	2.76	46	74	37	12 612	51	8.44
1963 Census--	6 272	8 937	70	1 987	2.76	46	75	41	11 422	54	8.13
INDUSTRY 3613, SWITCHGEAR AND SWITCHBOARD APPARATUS											
1977 Census--	12 542	(NA)	72	1 915	5.62	40	65	(NA)	30 119	41	21.72
1976 ASM----	11 575	10 724	70	1 864	5.39	39	66	24	26 980	42	20.58
1975 ASM----	10 961	10 230	68	1 853	5.19	39	65	24	24 347	45	19.09
1974 ASM----	10 159	8 558	72	1 954	4.56	41	69	23	22 262	45	15.66
1973 ASM----	9 462	7 588	72	1 990	4.17	40	69	22	20 352	46	14.13
1972 Census--	8 956	7 661	71	1 957	4.00	39	68	24	18 829	47	13.41
1971 ASM----	8 628	7 460	70	1 984	3.82	38	67	24	18 484	46	13.13
1970 ASM----	8 102	6 768	71	1 993	3.58	39	68	24	17 203	47	12.11
1969 ASM----	7 611	6 300	72	2 014	3.26	38	66	23	16 848	45	11.56
1968 ASM----	7 194	6 103	71	2 012	3.09	39	67	23	15 622	46	10.82
1967 Census--	7 124	5 729	72	2 022	3.03	39	68	23	15 040	47	10.25
1966 ASM----	6 944	(NA)	72	2 068	2.87	39	68	(NA)	15 024	46	10.04
1965 ASM----	6 704	(NA)	70	2 051	2.82	39	69	(NA)	13 840	48	9.54
1964 ASM----	6 558	5 418	67	2 086	2.74	41	72	25	12 631	51	8.90
1963 Census--	6 275	5 255	70	2 018	2.66	41	72	25	11 996	52	8.42
INDUSTRY 3621, MOTORS AND GENERATORS											
1977 Census--	12 149	(NA)	76	1 965	5.50	42	69	(NA)	26 916	45	17.89
1976 ASM----	11 125	13 928	77	1 940	5.04	42	70	33	24 198	45	15.99
1975 ASM----	10 376	13 780	73	1 958	4.78	43	70	36	20 968	49	14.48
1974 ASM----	9 557	10 453	77	1 962	4.28	45	74	30	19 197	49	12.61
1973 ASM----	8 954	9 823	78	1 986	4.01	43	73	33	17 103	52	10.96
1972 Census--	8 465	10 393	77	2 013	3.71	42	73	38	16 337	52	10.59
1971 ASM----	8 362	11 494	74	1 997	3.68	42	74	43	14 829	56	9.92
1970 ASM----	7 842	9 354	75	1 969	3.52	42	75	39	14 051	55	9.46
1969 ASM----	7 498	8 044	75	2 043	3.28	42	74	34	13 456	55	8.71
1968 ASM----	7 129	7 574	75	2 033	3.11	41	73	34	13 128	54	8.54
1967 Census--	6 778	6 750	75	2 019	2.98	40	72	31	12 684	53	8.30
1966 ASM----	6 500	(NA)	77	1 998	2.83	42	74	(NA)	12 161	53	7.83
1965 ASM----	6 492	(NA)	75	2 044	2.85	42	74	(NA)	11 556	56	7.51
1964 ASM----	6 425	(NA)	72	2 050	2.76	40	74	(NA)	11 567	55	7.73
1963 Census--	6 191	5 864	72	2 040	2.70	41	75	32	10 543	58	7.08
INDUSTRY 3622, INDUSTRIAL CONTROLS											
1977 Census--	13 111	(NA)	63	1 954	5.50	38	67	(NA)	28 910	45	23.21
1976 ASM----	12 096	9 974	65	1 905	5.36	40	69	24	25 213	48	20.23
1975 ASM----	11 313	9 936	63	1 903	5.08	39	69	26	22 309	50	18.38
1974 ASM----	10 356	8 496	68	1 972	4.53	40	70	24	21 065	49	15.65
1973 ASM----	9 722	8 891	67	1 979	4.05	39	71	29	19 190	50	14.44
1972 Census--	9 112	9 662	65	1 994	3.86	39	72	35	17 777	51	13.64
1971 ASM----	8 760	8 778	64	1 903	3.87	35	69	34	16 381	53	13.38
1970 ASM----	8 209	8 058	64	1 935	3.58	34	68	33	15 985	51	12.90
1969 ASM----	7 702	7 501	66	1 991	3.24	34	69	33	14 748	52	11.13
1968 ASM----	7 198	628	53	2 384	3.13	34	68	2	13 909	51	10.88
1967 Census--	6 962	5 890	69	2 000	3.02	35	67	26	14 303	48	10.35
1966 ASM----	7 082	(NA)	68	2 095	2.96	35	66	(NA)	15 653	45	10.88
1965 ASM----	6 822	(NA)	68	2 070	2.92	33	65	(NA)	14 786	46	10.49
1964 ASM----	6 739	5 873	69	1 983	2.90	33	65	27	14 406	46	10.47
1963 Census--	6 503	5 730	69	1 969	2.79	32	65	29	13 651	47	10.03

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3623, WELDING APPARATUS, ELECTRIC											
1977 Census--	16 355	(NA)	64	2 039	7.18	53	77	(NA)	33 358	49	25.34
1976 ASM----	14 708	13 372	65	1 981	6.59	52	75	21	29 931	49	22.94
1975 ASM----	14 011	11 982	64	2 027	6.32	50	73	19	30 088	46	22.93
1974 ASM----	13 016	10 527	67	2 097	5.62	51	75	18	28 730	45	20.26
1973 ASM----	11 870	11 444	66	2 148	5.18	50	75	24	23 086	51	16.12
1972 Census--	11 219	11 683	63	2 132	4.90	47	73	27	22 806	49	16.91
1971 ASM----	11 047	13 511	59	2 171	4.59	48	76	34	20 590	53	15.84
1970 ASM----	10 062	11 832	62	2 066	4.28	49	77	33	17 881	56	13.74
1969 ASM----	9 773	9 133	65	2 102	4.30	47	75	26	18 426	53	13.41
1968 ASM----	9 304	9 579	68	2 042	4.01	46	73	27	18 253	50	13.11
1967 Census--	8 642	9 452	68	2 106	3.68	48	72	26	19 364	44	13.39
1966 ASM----	8 083	(NA)	70	2 148	3.38	52	74	(NA)	18 368	44	12.18
1965 ASM----	8 214	(NA)	67	2 294	3.22	53	76	(NA)	16 730	49	10.81
1964 ASM----	8 061	7 789	68	2 320	3.19	51	75	22	16 894	47	10.64
1963 Census--	7 510	8 677	68	2 136	3.16	51	72	25	16 916	44	11.51
INDUSTRY 3624, CARBON AND GRAPHITE PRODUCTS											
1977 Census--	13 576	(NA)	74	1 957	6.27	45	68	(NA)	33 802	40	23.10
1976 ASM----	12 733	41 633	74	1 888	6.08	49	71	72	33 275	38	23.77
1975 ASM----	11 371	38 929	73	1 879	5.53	41	63	74	33 194	34	24.04
1974 ASM----	10 706	31 880	76	2 010	5.00	45	67	62	27 182	39	17.74
1973 ASM----	9 491	30 327	77	2 021	4.40	42	67	81	21 680	43	13.77
1972 Census--	8 814	31 761	76	1 941	4.24	41	68	95	19 238	45	13.01
1971 ASM----	8 351	29 684	75	1 964	4.00	40	65	91	19 702	42	13.25
1970 ASM----	8 033	26 225	76	2 010	3.75	37	63	84	20 458	39	13.27
1969 ASM----	7 637	25 530	77	1 954	3.61	37	62	86	18 362	41	12.06
1968 ASM----	7 053	24 911	76	1 977	3.30	38	65	95	16 150	43	10.61
1967 Census--	6 957	22 168	76	2 032	3.12	39	67	89	15 655	44	10.07
1966 ASM----	6 842	(NA)	77	2 023	3.04	39	65	(NA)	16 212	42	10.30
1965 ASM----	6 631	(NA)	77	2 062	2.94	37	63	(NA)	16 310	40	10.18
1964 ASM----	6 422	(NA)	76	2 036	2.88	39	67	(NA)	13 990	45	9.02
1963 Census--	6 200	18 530	80	2 012	2.73	37	64	81	14 140	43	8.78
INDUSTRY 3629, ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.											
1977 Census--	11 414	(NA)	73	1 917	4.84	42	69	(NA)	24 876	45	17.56
1976 ASM----	10 357	10 479	72	1 908	4.87	42	71	29	21 321	48	15.42
1975 ASM----	9 540	10 839	70	1 983	3.95	43	71	31	18 919	50	13.49
1974 ASM----	8 617	8 306	73	1 969	3.69	43	72	27	17 657	48	12.14
1973 ASM----	8 396	5 936	71	2 041	3.33	48	80	22	14 362	58	9.86
1972 Census--	8 168	6 811	66	1 925	3.43	41	78	30	13 366	61	10.38
1971 ASM----	7 741	7 848	65	1 910	3.09	34	70	36	13 478	57	10.79
1970 ASM----	6 921	6 263	74	1 908	3.02	40	72	29	12 900	53	9.04
1969 ASM----	6 853	5 839	74	1 986	2.90	42	74	26	12 643	54	8.52
1968 ASM----	6 396	5 559	76	1 941	2.82	41	72	26	12 529	51	8.46
1967 Census--	5 793	5 703	78	1 957	2.52	42	74	31	10 519	55	6.87
1966 ASM----	5 502	(NA)	80	1 926	2.40	44	74	(NA)	10 346	53	6.71
1965 ASM----	5 386	(NA)	77	2 015	2.25	46	77	(NA)	9 490	56	6.09
1964 ASM----	5 241	3 924	77	1 946	2.26	42	74	23	9 275	56	6.16
1963 Census--	5 214	3 821	77	1 926	2.27	42	72	22	10 114	51	6.74

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3612, TRANSFORMERS														
United States	-	**279**	**143**	**43.3**	**529.6**	**32.8**	**62.5**	**349.8**	**1 162.7**	**1 061.8**	**2 201.8**	**67.2**	**46.8**	**757.3**
New England Division:														
Massachusetts	-	6	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	14	9	1.7	18.0	1.1	2.3	10.0	30.6	30.3	61.4	1.1	(NA)	(D)
New Jersey	-	20	8	1.7	15.7	1.4	2.7	11.2	27.2	31.8	59.0	1.8	1.2	11.7
Pennsylvania	-	16	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	9.5	147.2
East North Central Division:														
Ohio	-	16	11	1.6	17.4	1.2	2.4	11.6	38.9	48.4	85.4	1.4	1.9	28.9
Indiana	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	24	15	3.7	44.7	2.9	5.3	30.0	77.3	89.4	163.7	2.6	5.0	60.6
Michigan	E1	12	6	0.4	4.6	0.3	0.5	2.9	8.9	8.2	17.3	(D)	0.3	3.2
Wisconsin	-	16	12	4.2	49.4	3.1	5.8	32.0	114.2	122.4	229.1	(D)	(NA)	(D)
West North Central Division:														
Missouri	-	7	5	1.4	16.8	1.0	1.9	10.2	45.5	50.6	94.7	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	7	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	9	6	2.1	27.7	1.6	3.3	17.6	70.5	57.1	124.4	4.0	(NA)	(D)
Georgia	-	5	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	4	4	1.4	15.1	1.1	2.0	10.1	29.7	56.8	84.6	1.0	(NA)	(D)
Alabama	-	4	3	0.7	6.5	0.6	1.2	5.1	18.2	14.4	31.8	0.6	(NA)	(D)
Mississippi	-	6	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	14	7	0.7	6.1	0.5	1.0	4.1	15.0	17.9	31.8	(D)	(NA)	(NA)
Pacific Division:														
Oregon	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	46	15	1.6	17.3	1.3	2.5	11.6	50.4	44.6	92.0	1.3	(NA)	(D)
INDUSTRY 3613, SWITCHGEAR AND SWITCHBOARD APPARATUS														
United States	-	**667**	**315**	**71.4**	**896.1**	**51.7**	**99.1**	**556.8**	**2 151.8**	**1 429.8**	**3 541.0**	**73.1**	**69.2**	**1 303.0**
New England Division:														
Maine	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Hampshire	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	17	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	26	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	41	18	1.6	19.4	1.2	2.3	12.4	40.7	33.8	71.7	1.5	(NA)	(D)
New Jersey	-	48	26	4.4	55.4	3.1	5.8	33.3	113.5	71.4	183.6	3.5	4.4	72.6
Pennsylvania	-	32	16	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	16.9	349.1
East North Central Division:														
Ohio	-	40	25	3.2	37.0	2.2	4.0	21.8	95.7	54.8	149.2	2.9	2.8	53.9
Indiana	-	9	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	67	40	7.4	95.6	5.1	10.5	55.4	173.8	126.7	296.8	9.4	6.9	108.3
Michigan	E1	44	15	1.1	15.0	0.8	1.5	9.0	33.5	25.3	57.3	(D)	0.8	16.4
Wisconsin	-	15	5	1.7	26.7	1.0	2.0	15.5	71.8	44.6	114.4	(D)	(NA)	(D)
West North Central Division:														
Minnesota	E1	8	4	0.9	8.2	0.6	1.2	4.8	17.6	10.9	28.5	0.8	(NA)	(D)
Iowa	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	13	8	3.9	43.0	3.3	5.6	26.5	103.2	52.6	156.4	(D)	(NA)	(D)
Nebraska	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	11	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	22	7	2.2	18.4	1.8	3.4	12.3	66.8	66.1	131.4	4.9	(NA)	(D)
South Carolina	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	16	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	13	9	3.8	40.2	3.0	5.7	28.5	115.7	53.5	169.2	3.3	(NA)	(D)
Tennessee	-	9	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	33	13	1.5	19.9	1.1	2.2	11.7	44.9	58.7	103 9	0 8	1 4	24 9
Mountain Division:														
Utah	-	6	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	E1	14	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	E1	10	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	79	36	4.8	60.2	3.4	6 8	36.1	138.7	97 2	230.9	3 2	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3621, MOTORS AND GENERATORS														
United States	-	**446**	**298**	**96.9**	**1 176.7**	**74.1**	**145.7**	**802.1**	**2 606.9**	**1 915.9**	**4 458.7**	**160.9**	**90.3**	**1 475.2**
New England Division:														
New Hampshire	-	6	2	0.5	4.4	0.4	0.7	2.9	9.5	6.2	15.7	(D)	(NA)	(D)
Massachusetts	E1	7	3	0.2	2.4	0.2	0.4	1.4	4.6	2.4	6.8	(D)	0.3	2.7
Connecticut	-	9	6	1.7	21.5	1.0	2.0	10.2	35.8	41.1	78.9	1.7	(NA)	(D)
Middle Atlantic Division:														
New York	-	30	17	11.8	189.9	9.3	17.9	137.7	426.7	251.0	669.4	17.6	12.1	251.4
New Jersey	E1	19	11	2.1	23.7	1.6	2.9	16.2	46.3	23.0	68.9	3.7	3.0	38.0
Pennsylvania	-	28	23	5.2	68.7	3.6	6.7	37.3	167.4	94.8	256.4	8.0	5.0	89.6
East North Central Division:														
Ohio	-	38	29	11.3	160.9	8.1	17.0	106.8	319.9	189.0	499.6	16.2	12.9	222.4
Indiana	-	21	17	8.8	114.5	6.9	14.0	83.0	239.2	133.9	368.3	11.2	10.8	164.0
Illinois	-	39	27	4.0	39.6	3.2	6.4	26.3	82.3	73.7	155.3	4.9	3.7	52.0
Michigan	-	15	10	2.5	27.6	1.8	3.6	18.5	43.5	35.8	78.5	1.7	3.0	35.1
Wisconsin	-	37	24	7.4	88.8	5.2	9.9	56.3	179.0	139.2	315.2	14.0	5.2	81.2
West North Central Division:														
Minnesota	-	12	9	3.7	58.3	2.5	4.5	34.4	124.1	105.1	228.0	(D)	2.5	58.8
Iowa	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	16	14	5.5	51.1	4.8	9.5	41.2	131.1	105.9	237.4	6.6	3.4	42.5
Kansas	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	12	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	6	6	1.7	15.4	1.2	2.7	9.8	32.5	25.4	56.9	1.9	1.9	31.5
South Carolina	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	8	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E2	7	3	0.2	1.9	0.1	0.3	1.2	9.8	3.1	12.9	0.4	(NA)	(NA)
East South Central Division:														
Kentucky	-	3	3	2.3	21.2	1.9	3.7	17.5	53.5	64.3	118.4	4.5	(NA)	(D)
Tennessee	-	13	10	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	5	3	0.8	8.4	0.6	1.3	5.8	30.3	23.1	52.6	(D)	(NA)	(NA)
Mississippi	-	6	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	13	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	7.3	138.1
Louisiana	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E1	10	6	0.5	7.2	0.3	0.6	2.7	11.6	22.8	32.3	(D)	(NA)	(D)
Mountain Division:														
Arizona	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	E1	52	30	4.4	59.3	3.0	6.1	34.1	134.1	107.6	236.8	7.6	3.1	50.5
INDUSTRY 3622, INDUSTRIAL CONTROLS														
United States	-	**727**	**284**	**55.5**	**727.5**	**35.4**	**69.1**	**380.6**	**1 604.2**	**963.3**	**2 514.6**	**57.6**	**51.1**	**908.4**
New England Division:														
Massachusetts	-	34	11	2.1	22.0	1.3	2.2	11.9	50.0	26.9	73.5	1.5	(NA)	(D)
Connecticut	E1	32	15	1.8	22.0	1.1	2.3	11.6	38.2	25.9	63.1	1.3	(NA)	(D)
Middle Atlantic Division:														
New York	-	38	15	3.3	48.2	1.9	3.6	21.6	92.1	61.9	149.8	3.7	3.4	68.8
New Jersey	E2	41	11	1.1	12.7	0.7	1.4	6.6	19.3	14.6	33.4	2.2	0.8	12.3
Pennsylvania	-	50	23	2.2	25.9	1.5	3.0	13.9	59.1	35.9	91.1	2.4	1.5	21.1
East North Central Division:														
Ohio	-	50	23	3.5	51.1	1.8	3.4	20.2	117.7	68.9	184.5	6.2	3.7	72.2
Indiana	-	12	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.1
Illinois	-	59	35	5.1	59.8	3.5	6.5	30.8	135.7	102.1	235.9	4.4	5.0	91.7
Michigan	E1	53	24	2.3	31.1	1.5	2.9	17.2	59.9	40.0	97.2	2.1	1.2	29.1
Wisconsin	-	34	18	12.2	179.8	7.6	16.3	100.3	353.3	168.7	510.5	10.2	13.0	208.3
West North Central Division:														
Minnesota	-	17	8	1.0	15.3	0.5	0.8	4.4	26.3	19.1	45.4	(D)	(NA)	(D)
Iowa	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	12	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	14	6	3.4	39.4	2.5	4.6	24.2	133.1	63.2	195.7	(D)	1.6	39.4
South Carolina	-	9	4	1.2	14.6	0.7	1.4	7.1	32.6	19.9	53.7	(D)	(NA)	(D)
Georgia	-	7	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	12	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	4.7
East South Central Division:														
Kentucky	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	7	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	E1	54	12	1.1	15.9	0.7	1.4	8.3	28.3	23.7	49.8	1.3	(NA)	(D)
Mountain Division:														
Montana	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Idaho	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Arizona	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	11	3	0.2	2 8	0 1	0.2	1.2	5.3	4.3	9.2	0.1	(NA)	(NA)
California	E1	92	26	2.7	34.8	1.7	3.4	17.8	69.0	45.4	113.3	1.5	2.1	38.8

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3623, WELDING APPARATUS, ELECTRIC														
United States	-	**176**	**87**	**17.5**	**285.7**	**11.3**	**23.0**	**165.1**	**582.7**	**634.2**	**1 191.2**	**38.7**	**15.5**	**353.5**
Middle Atlantic Division:														
New York	-	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	8	5	1.5	20.9	1.1	1.8	13.1	52.1	57.3	109.4	(D)	1.5	34.4
East North Central Division:														
Ohio	-	17	12	5.2	103.3	3.4	6.9	63.4	211.7	250.9	453.1	(D)	4.5	118.8
Indiana	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	11	7	1.0	15.0	0.7	1.3	8.2	19.0	27.7	46.5	1.0	0.9	15.4
Michigan	-	36	21	1.9	35.3	1.4	3.3	23.6	71.1	48.4	115.2	1.6	2.0	44.4
Wisconsin	-	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	5.1
Kansas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Alabama	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	26	10	1.1	17.0	0.7	1.3	8.4	33.3	32.8	64.1	0.9	(NA)	(D)
INDUSTRY 3624, CARBON AND GRAPHITE PRODUCTS														
United States	-	**74**	**48**	**12.1**	**164.1**	**9.0**	**17.7**	**110.9**	**408.4**	**337.5**	**735.2**	**35.4**	**11.3**	**217.4**
Middle Atlantic Division:														
New York	-	9	7	2.7	42.0	2.0	4.2	30.2	125.7	59.6	174.0	8.0	(NA)	(D)
New Jersey	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	10	7	3.2	40.7	2.3	4.4	25.6	75.4	44.0	115.9	(D)	3.3	53.2
East North Central Division:														
Ohio	-	13	10	1.3	18.6	1.0	2.0	12.3	47.9	27.0	72.0	2.9	(NA)	(D)
Illinois	E7	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	7	4	0.6	10.0	0.4	0.9	6.4	18.5	8.3	26.7	0.7	(NA)	(D)
Wisconsin	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
West Virginia	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	10	5	0.2	3.1	0.2	0.4	2.0	9.3	4.9	13.9	1.6	(NA)	(NA)
INDUSTRY 3629, ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.														
United States	-	**223**	**102**	**16.5**	**188.6**	**12.2**	**23.4**	**113.4**	**411.0**	**294.0**	**692.4**	**16.8**	**20.2**	**270.0**
New England Division:														
Massachusetts	-	13	6	1.3	11.2	1.1	2.1	7.5	26.4	25.5	50.6	(D)	3.1	22.9
Connecticut	E2	5	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	10	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.7	52.2
New Jersey	E4	11	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.4
Pennsylvania	E1	16	9	0.7	9.7	0.5	1.1	6.0	19.1	10.3	29.1	0.6	0.9	15.4
East North Central Division:														
Ohio	-	16	8	2.7	38.1	1.7	3.4	17.6	97.8	51.6	146.4	(D)	(NA)	(D)
Indiana	-	13	11	2.6	25.6	2.1	3.7	18.0	57.5	39.1	95.1	2.4	(NA)	(D)
Illinois	E1	25	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	11	4	0.3	4.3	0.2	0.5	2.9	7.7	7.5	15.2	0.3	(NA)	(D)
South Atlantic Division:														
Virginia	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Louisiana	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E3	7	3	0.2	2.7	0.2	0.3	1.9	3.8	4.1	7.8	(D)	(NA)	(D)
Pacific Division:														
California	-	33	17	2.2	25.5	1.5	2.9	13.7	49.0	34.9	79.9	1.7	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Transformers (SIC 3612)	Switchgear and switchboard apparatus (SIC 3613)	Motors and generators (SIC 3621)	Industrial controls (SIC 3622)	Welding apparatus, electric (SIC 3623)	Carbon and graphite products (SIC 3624)	Electrical industrial apparatus, n.e.c. (SIC 3629)
Primary product specialization ratio[1]	percent	95	91	92	87	86	94	87
Coverage ratio[2]	do	97	91	80	86	94	93	81
All establishments	number	279	667	446	727	176	74	223
With 1 to 19 employees	do	136	352	148	443	89	26	121
With 20 to 99 employees	do	65	173	111	180	49	24	57
With 100 employees or more	do	78	142	187	104	38	24	45
All employees, average for year	1,000	43.3	71.4	96.9	55.5	17.5	12.1	16.5
Payroll for year, all employees	mil. dol.	529.6	896.1	1 176.7	727.5	285.7	164.1	188.6
Production workers:								
Average for year	1,000	32.8	51.7	74.1	35.4	11.3	9.0	12.2
March	do	32.1	50.5	72.9	34.5	11.1	8.9	12.0
May	do	32.6	51.1	74.4	35.1	11.3	9.1	12.1
August	do	32.7	52.3	73.2	35.1	11.3	9.1	12.2
November	do	33.6	53.0	76.1	36.6	11.4	9.0	12.5
Hours	millions	62.5	99.1	145.7	69.1	23.0	17.7	23.4
January to March	do	14.8	24.1	35.7	16.6	5.6	4.3	5.8
April to June	do	16.3	25.0	37.6	17.4	6.0	4.5	5.9
July to September	do	14.7	24.2	34.6	17.1	5.7	4.5	5.6
October to December	do	16.6	25.7	37.7	18.0	5.8	4.4	6.1
Wages	mil. dol.	349.8	556.8	802.1	380.6	165.1	110.9	113.4
Cost of materials, etc.	do	1 061.8	1 429.8	1 915.9	963.3	634.2	337.5	294.0
Materials, parts, containers, etc., consumed	do	1 018.6	1 202.0	1 796.6	869.5	577.5	217.1	263.5
Resales	do	11.5	183.5	37.0	63.0	33.1	66.9	18.3
Fuels consumed	do	11.8	9.5	21.2	5.8	5.1	21.2	2.8
Purchased electric energy	do	18.2	21.8	37.0	15.9	7.8	29.1	5.7
Contract work	do	1.8	13.0	24.1	9.1	10.7	3.2	3.7
Value of shipments, including resales	do	2 201.8	3 541.0	4 458.7	2 514.6	1 191.2	735.2	692.4
Value of resales	do	11.1	242.6	48.2	88.5	43.6	70.9	24.7
Value added by manufacture	do	1 162.7	2 151.8	2 606.9	1 604.2	582.7	408.4	411.0
Manufacturers' inventories:								
Beginning of year	do	344.1	594.3	678.0	564.7	226.2	200.0	123.3
Finished products	do	80.7	141.4	154.8	135.4	76.0	37.2	23.5
Work in process	do	140.4	253.5	287.2	221.1	57.5	124.9	45.1
Materials, supplies, fuel, etc.	do	123.0	199.4	236.0	208.1	92.7	37.9	54.7
End of year	do	385.8	647.5	770.3	616.8	258.3	215.9	140.0
Finished products	do	97.4	154.1	185.0	147.6	87.4	38.7	25.0
Work in process	do	146.3	281.5	321.1	261.9	71.8	134.1	56.3
Materials, supplies, fuel, etc.	do	142.1	211.8	264.2	207.4	99.1	43.2	58.7
Capital expenditures for plant and equipment	do	70.9	77.6	168.5	62.3	44.8	35.9	17.6
New capital expenditures	do	67.2	73.1	160.9	57.6	38.7	35.4	16.8
New buildings and other structures	do	8.7	15.8	28.3	12.8	14.5	4.6	3.8
New machinery and equipment	do	58.5	57.3	132.6	44.8	24.1	30.8	13.0
Used capital expenditures	do	3.7	4.5	7.6	4.7	6.1	0.5	0.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Transformers (SIC 3612)		Switchgear and switchboard apparatus (SIC 3613)		Motors and generators (SIC 3621)		Industrial controls (SIC 3622)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	4.4	10	7.5	8	9.8	4	(3.1)	15
Response coverage ratio[2] (percent)	73	(X)	59	(X)	72	(X)	29	(X)
Machinery	18.3	2	17.4	2	30.9	3	3.8	4
Response coverage ratio[2] (percent)	81	(X)	56	(X)	68	(X)	29	(X)
Cost of purchased communication services	(5.0)	16	10.1	6	18.1	12	8.6	9
Response coverage ratio[2] (percent)	83	(X)	73	(X)	75	(X)	73	(X)
Rental payments	10.0	6	17.4	4	21.8	4	18.3	4
Buildings and other structures	3.7	14	8.2	9	7.4	11	6.3	6
Machinery and equipment	6.3	4	9.2	3	14.4	2	12.0	3
Supplemental labor costs	107.5	2	181.6	1	239.1	1	119.3	2
Legal costs	40.2	2	74.3	1	97.3	1	55.3	1
Voluntary costs	67.3	3	107.3	1	141.8	1	64.0	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	213.4	4	250.6	2	344.0	3	231.6	2
New capital expenditures	7.2	5	13.8	6	25.3	5	12.5	6
Used capital expenditures	(0.9)	34	0.5	14	(1.3)	21	(2.2)	20
Retirements	3.7	6	3.8	3	11.6	6	2.1	12
End of year	217.9	3	261.1	2	359.0	3	244.2	2
Machinery and equipment:								
Beginning of year	404.7	4	496.4	2	950.9	2	321.9	2
New capital expenditures	61.7	6	58.9	4	132.8	2	47.3	7
Automobiles, trucks, etc., for highway use[3]	(0.9)	(A)	(2.2)	(A)	(1.0)	(A)	(0.6)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(2.3)	(A)	(3.3)	(A)
All other[3]	(D)	63	(D)	44	(114.4)	17	(30.6)	65
New machinery and equipment, n.s.k.[4]	(27.1)	74	(9.3)	(A)	(15.1)	(A)	(12.8)	(A)
Used capital expenditures	2.9	1	(4.8)	15	4.7	2	1.7	8
Retirements	21.0	4	21.1	4	43.2	7	16.3	3
End of year	448.3	3	538.9	2	1,045.3	2	354.6	2
Total gross value of depreciable assets:								
Beginning of year	618.1	4	747.0	2	1,295.0	1	553.5	2
New capital expenditures	69.0	5	72.6	4	158.1	2	59.8	7
Used capital expenditures	3.8	9	5.3	14	6.0	5	3.9	13
Retirements	24.7	4	25.0	3	54.8	6	18.4	3
End of year	666.2	3	800.0	2	1,404.4	1	598.9	2
Depreciation charges during 1977	38.9	2	44.9	4	92.8	2	40.5	2
Buildings and other structures	8.0	2	9.2	6	13.5	2	9.0	5
Machinery and equipment	30.9	2	35.6	4	79.2	2	31.4	2

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Welding apparatus, electric (SIC 3623)		Carbon and graphite products (SIC 3624)		Electrical industrial apparatus, n.e.c. (SIC 3629)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	1.6	10	2.5	2	(1.2)	35
Response coverage ratio[2] (percent)	59	(X)	77	(X)	82	(X)
Machinery	6.9	7	(1.9)	25	(2.0)	22
Response coverage ratio[2] (percent)	60	(X)	74	(X)	76	(X)
Cost of purchased communication services	(3.6)	19	(1.1)	25	(3.0)	21
Response coverage ratio[2] (percent)	56	(X)	50	(X)	74	(X)
Rental payments	5.6	13	1.3	12	(3.6)	16
Buildings and other structures	(3.7)	22	(0.4)	38	1.9	14
Machinery and equipment	1.8	10	0.9	6	(1.7)	27
Supplemental labor costs	49.7	7	41.3	2	30.8	6
Legal costs	21.5	8	14.4	1	14.5	5
Voluntary costs	28.2	7	26.9	3	16.3	9
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	70.1	8	112.3	3	52.9	7
New capital expenditures	15.5	6	(4.9)	16	(3.6)	18
Used capital expenditures	1.3	1	(0.6)	79	(1.4)	81
Retirements	(0.9)	18	(0.2)	33	(0.5)	24
End of year	86.0	7	117.5	2	57.3	6
Machinery and equipment:						
Beginning of year	138.9	5	339.9	3	127.1	6
New capital expenditures	25.5	4	32.1	8	14.1	12
Automobiles, trucks, etc., for highway use[3]	(0.3)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(0.1)	(A)	(D)	(A)	(D)	(A)
All other[3]	(22.0)	91	(28.2)	71	(10.5)	(A)
New machinery and equipment, n.s.k.[4]	(3.0)	(A)	2.9	(A)	3.1	(A)
Used capital expenditures	5.0	3	0.3	1	(0.5)	19
Retirements	3.5	19	(2.9)	16	(2.3)	24
End of year	165.8	5	369.4	3	139.4	5
Total gross value of depreciable assets:						
Beginning of year	208.9	6	452.2	3	179.9	6
New capital expenditures	41.0	4	37.0	9	17.7	12
Used capital expenditures	6.3	3	(0.9)	53	(1.9)	63
Retirements	(4.2)	19	(3.1)	17	(2.8)	24
End of year	251.8	5	487.0	3	196.7	5
Depreciation charges during 1977	15.5	8	26.8	6	15.1	5
Buildings and other structures	3.5	14	4.1	5	1.9	9
Machinery and equipment	12.1	7	22.8	7	13.2	4

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuning ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3612, TRANSFORMERS												
Total	-	**279**	**43.3**	**529.6**	**32.8**	**62.5**	**349.8**	**1 162.7**	**1 061.8**	**2 201.8**	**67.2**	**385.8**
Establishments with an average of—												
1 to 4 employees	E8	60	0.1	0.9	0.1	0.1	0.6	(S)	1.7	3.5	0.1	0 5
5 to 9 employees	E7	42	0.3	3.0	0.2	0.4	2.0	6.3	6.1	12.5	0.2	2.0
10 to 19 employees	E3	34	0.5	5.7	0.3	0.7	3.6	10.7	15.6	26.1	0.6	5.3
20 to 49 employees	E1	37	1.1	12.8	0.9	1.7	8.4	25.7	22.1	47.6	1.7	7.4
50 to 99 employees	E1	28	2.0	19.6	1.6	3.1	13.0	50.3	51.1	98.5	1.9	19.9
100 to 249 employees	-	39	6.2	66.1	4.7	9.5	43.4	166 0	203.7	360.7	5.3	70.7
250 to 499 employees	-	15	5.2	55.4	4.0	7.5	34.0	126.7	118.1	238.1	6.2	46.0
500 to 999 employees	-	15	10.3	127.3	7.8	14.6	85.4	245.7	283 0	517.6	31.2	102.7
1,000 to 2,499 employees	-	7	(17.6)	(238.8)	(13.1)	(24.9)	(159.4)	(532.1)	(360.3)	(897.4)	(20.0)	(131.2)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	96	0.5	5.9	0.4	0.7	3.8	11.3	10.3	21.7	0.4	3 8
INDUSTRY 3613, SWITCHGEAR AND SWITCHBOARD APPARATUS												
Total	-	**667**	**71.4**	**896.1**	**51.7**	**99.1**	**556.8**	**2 151.8**	**1 429.8**	**3 541.0**	**73.1**	**647.5**
Establishments with an average of—												
1 to 4 employees	E5	184	0.3	4.0	0.3	0.5	2.5	9.4	8.0	19.0	0.3	3.6
5 to 9 employees	E6	88	0.6	6.9	0.4	0.8	4.3	17.6	11.6	29.7	0.5	5.8
10 to 19 employees	E6	80	1.2	13.3	0.8	1.5	7.9	28.7	20.9	49.6	0 9	9 0
20 to 49 employees	E1	110	3.3	42.1	2.3	4.4	24.3	79.5	73.4	149.2	4.5	32.2
50 to 99 employees	-	63	4.6	55.1	3.2	6.4	32.0	110.1	111.8	219.5	3.3	39.1
100 to 249 employees	-	64	9.9	107.5	7.3	13.7	67.1	276.0	250.8	518.0	12.1	90 1
250 to 499 employees	-	42	14.7	171.7	10.5	20.3	105.2	435.4	304.1	730.7	12.8	132.4
500 to 999 employees	-	25	17.4	216.0	13.0	25.9	141.2	511.8	327.2	827.9	18.4	151.4
1,000 to 2,499 employees	-	9	(19.4)	(279.5)	(13.8)	(25.5)	(172.4)	(683.5)	(322.1)	(997.4)	(20.3)	(184.0)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	264	1.7	19.7	1.2	2.3	12.1	43.5	27.3	70.8	1.3	13.8
INDUSTRY 3621, MOTORS AND GENERATORS												
Total	-	**446**	**96.9**	**1 176.7**	**74.1**	**145.7**	**802.1**	**2 606.9**	**1 915.9**	**4 458.7**	**160.9**	**770.3**
Establishments with an average of—												
1 to 4 employees	E7	74	0.1	1.5	0.1	0.2	1.0	1.0	2.4	5.4	0.2	0 9
5 to 9 employees	E7	40	0.3	3.4	0.2	0.4	2.2	6.5	5.0	11 6	0.4	1.8
10 to 19 employees	E5	34	0.4	5.1	0.3	0.9	3.3	10.6	9.4	19.8	0.6	3.2
20 to 49 employees	E1	64	2.3	26.0	1.7	3.3	15.7	71.8	49.1	120.1	2.6	19.2
50 to 99 employees	E1	47	3.3	34.5	2.5	5.0	22.3	76.1	62 8	135.3	11.7	27.9
100 to 249 employees	-	69	11.1	117.2	8.4	16.5	74.0	265.6	224.1	479.9	16.6	105.2
250 to 499 employees	-	55	20.1	224.0	14.6	29.2	137.1	460.2	413.7	859.5	36.0	179.0
500 to 999 employees	-	46	32.5	380.3	26.1	52.0	284.6	815.1	594.4	1 388.1	49.1	209.7
1,000 to 2,499 employees	-	15	(26.8)	(384.8)	(20.1)	(38.1)	(261.9)	(899.9)	(555.0)	(1 439.0)	(43.8)	(223.4)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	115	0.7	8.3	0.6	1.1	5.7	15.5	11.8	27.3	1.0	4.7
INDUSTRY 3622, INDUSTRIAL CONTROLS												
Total	-	**727**	**55.5**	**727.5**	**35.4**	**69.1**	**380.6**	**1 604.2**	**963.3**	**2 514.6**	**57.6**	**616.8**
Establishments with an average of—												
1 to 4 employees	E7	230	0.4	4.5	0.3	0.4	2.4	10.2	6.3	16.6	0.4	4.0
5 to 9 employees	E8	98	0.7	8.2	0.4	0.8	4.4	18.0	11.3	29.2	0.6	7.0
10 to 19 employees	E5	115	1.6	21.9	1.0	2.0	10.8	43.7	30.2	73.7	1.4	15.9
20 to 49 employees	E1	114	3.6	46.4	2.3	4.4	23.2	90.1	68.3	156.3	3.7	31.7
50 to 99 employees	-	66	4.6	60.5	3.0	5.9	30.9	129.0	77.0	201.7	4 6	40.6
100 to 249 employees	-	57	9.1	104.7	6.2	12.0	60.9	247.1	153.1	390.0	8.3	93 8
250 to 499 employees	-	24	8.6	107.9	5.1	9.9	49.0	273.5	167.1	430 0	9.9	97.4
500 to 999 employees	-	17	13.2	168.6	8.5	16.3	90.1	368.2	232.2	585.3	13.3	161.3
1,000 to 2,499 employees	-	5	(13.7)	(204.9)	(8.5)	(17.5)	(108.9)	(424.2)	(217.9)	(631.7)	(15.4)	(165.1)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	344	2.0	24.9	1.3	2.4	13.0	53.5	32.7	86 2	2.1	21.7
INDUSTRY 3623, WELDING APPARATUS, ELECTRIC												
Total	-	**176**	**17.5**	**285.7**	**11.3**	**23.0**	**165.1**	**582.7**	**634.2**	**1 191.2**	**38.7**	**258.3**
Establishments with an average of—												
1 to 4 employees	E7	41	0.1	0.9	0.1	0.1	0.5	2.1	2.2	4 4	0 1	0 9
5 to 9 employees	E7	19	0.1	1.7	0.1	0.2	1.0	3.6	4.5	8.2	0.1	1 5
10 to 19 employees	E6	29	0.4	5.7	0.3	0.5	3.1	10.4	11.5	21.9	0 8	4 5
20 to 49 employees	-	26	0.8	12.0	0.6	1.2	7.3	25 3	19.3	44 0	0 8	8 2
50 to 99 employees	-	23	1.6	24.6	1.1	2 3	14.9	49.8	55.2	98 3	1 6	24 9
100 to 249 employees	-	23	3.5	54.4	2.2	4 6	31.1	100.4	112.6	202 6	3 7	54 5
250 to 499 employees	-	9	2.9	43.1	2.1	4.2	26.6	82.0	99.6	183 4	(31 5)	33 2
500 to 999 employees	-	3	2.4	35.0	1.1	1 8	11.1	81 8	57.7	136 8	(D)	44 2
1,000 to 2,499 employees	-	3	5 6	108 4	3.8	8 1	69 5	227.4	271 6	491 6	(D)	86 3
Covered by administrative records[2]	E0	65	0.4	6 1	0 3	0.5	3.4	11 4	12 3	23 8	0 6	[illegible]

See footnotes at end of table.

Table 4. **Industry Statistics by Employment Size of Establishment: 1977**—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3624, CARBON AND GRAPHITE PRODUCTS												
Total	-	**74**	**12.1**	**164.1**	**9.0**	**17.7**	**110.9**	**408.4**	**337.5**	**735.2**	**35.4**	**215.9**
Establishments with an average of—												
1 to 4 employees	E7	12	(Z)	0.3	(Z)	(Z)	0.2	0.6	0.5	1.1	0.1	0.3
5 to 9 employees	E7	7	0.1	0.7	(Z)	0.1	0.4	1.8	1.1	2.9	0.2	0.7
10 to 19 employees	E3	7	0.1	1.5	0.1	0.1	0.9	2.6	1.6	4.2	0.3	0.7
20 to 49 employees	E1	14	0.5	5.4	0.3	0.7	3.3	12.3	7.0	18.5	1.8	3.6
50 to 99 employees	-	10	0.8	9.5	0.6	1.1	6.1	22.0	9.8	32.3	1.1	5.0
100 to 249 employees	-	7	1.0	11.9	0.8	1.5	7.4	28.9	19.7	47.9	1.6	7.3
250 to 499 employees	-	9	3.2	42.1	2.4	4.4	26.0	83.5	53.1	134.5	5.6	23.9
500 to 999 employees	-	8	6.4	92.7	4.9	9.7	66.4	256.7	244.6	493.7	24.8	174.4
Covered by administrative records[2]	E0	17	0.1	1.3	0.1	0.2	0.9	2.6	1.9	4.5	0.3	1.3
INDUSTRY 3629, ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.												
Total	-	**223**	**16.5**	**188.6**	**12.2**	**23.4**	**113.4**	**411.0**	**294.0**	**692.4**	**16.8**	**140.0**
Establishments with an average of—												
1 to 4 employees	E6	53	0.1	1.1	0.1	0.1	0.7	1.9	1.8	4.4	0.2	0.9
5 to 9 employees	E7	31	0.2	2.2	0.2	0.3	1.4	4.4	3.1	7.5	0.2	1.6
10 to 19 employees	E6	37	0.5	6.1	0.4	0.7	3.9	13.0	8.7	21.6	0.7	4.4
20 to 49 employees	E1	34	1.0	11.7	0.8	1.4	7.3	24.3	18.9	43.0	0.9	7.9
50 to 99 employees	-	23	1.7	18.2	1.2	2.4	11.4	38.0	28.0	65.3	1.7	13.5
100 to 249 employees	-	32	5.0	56.0	3.7	7.2	33.8	124.2	90.4	211.3	4.2	40.4
250 to 499 employees	-	7	2.5	26.9	1.8	3.3	13.8	60.9	51.0	107.3	2.6	22.0
500 to 999 employees	-	5	(5.4)	(66.4)	(4.1)	(7.8)	(41.0)	(144.4)	(92.2)	(231.8)	(6.3)	(49.3)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	85	0.6	6.3	0.5	0.8	4.2	13.1	8.9	22.0	0.6	4.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3612	**Transformers:**										
	Entire industry	279	43.3	529.6	32.8	62.5	349.8	1 162.7	1 061.8	2 201.8	67.2
	Establishments with 75 percent specialization or more	261	40.3	491.8	30.6	58.2	327.4	1 079.2	996 4	2 052 7	63.5
36122	Power and distribution transformers, except parts:										
	Establishments with this product class primary	65	25.8	354.3	18.3	35.4	226.3	847.8	702.9	1 534.6	50 8
	Establishments with 75 percent specialization or more in class	52	17.5	235.8	12.6	25.2	153.0	624.7	544.1	1 146.2	40 4
36124	Fluorescent lamp ballasts:										
	Establishments with this product class primary	12	6.4	55.4	5.8	10.6	45.6	76.4	137 1	212.1	4.6
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36125	Specialty transformers except lamp ballasts:										
	Establishments with this product class primary	46	8.1	86.6	6.5	12.2	57.5	175.7	157.4	326 0	9 2
	Establishments with 75 percent specialization or more in class	35	4.5	44.2	3.7	6.8	29.9	85.0	87.7	169 7	6 2
36127	Other transformers, parts for all transformers:										
	Establishments with this product class primary	12	1.4	15.2	1.0	1.9	8.5	29.7	32.9	62.2	1.4
	Establishments with 75 percent specialization or more in class	8	1.1	11.8	0.8	1.5	6.9	23.1	25.1	47.8	(D)
3613	**Switchgear and switchboard apparatus:**										
	Entire industry	667	71.4	896.1	51.7	99.1	556.8	2 151.8	1 429.8	3 541.0	73.1
	Establishments with 75 percent specialization or more	607	57.5	721.1	42.0	80.5	453.2	1 722.9	1 146.0	2 839.8	65.3
36131	Switchgear except ducts and control relays:										
	Establishments with this product class primary	89	18.7	274.1	12.2	23.0	151.6	579.4	399.4	975 6	20 8
	Establishments with 75 percent specialization or more in class	56	10.1	145.6	6.7	13.0	82.7	303.7	250.1	551.5	14.3
36132	Power circuit breakers, all voltages:										
	Establishments with this product class primary	12	3.7	56.8	2.7	5.6	39.9	117.0	72.7	186.8	6.3
	Establishments with 75 percent specialization or more in class	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36133	Low voltage panelboards and distribution boards:										
	Establishments with this product class primary	135	19.3	244.3	13.8	27.2	151.7	597.9	580.9	1 162 9	19 2
	Establishments with 75 percent specialization or more in class	88	10.1	126.7	7.1	13.8	77.2	311.9	281.4	586 3	9 9
36134	Fuses and fuse equipment under 2300 volts:										
	Establishments with this product class primary	12	5.3	52.6	4.5	8.3	35.3	138.8	43.1	178 9	5 5
	Establishments with 75 percent specialization or more in class	12	5.3	52.6	4.5	8.3	35.3	138.8	43.1	178 9	6 9
36135	Molded case circuit breakers, 750 volts and below:										
	Establishments with this product class primary	13	9.6	117.3	7.4	14.1	83.0	369.5	122.7	481.0	11.3
	Establishments with 75 percent specialization or more in class	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36136	Ducts, incl. plug-in units, 750 volts or less:										
	Establishments with this product class primary	8	1.6	18.6	1.1	2.2	11.3	52.4	33.0	83 3	1 3
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36137	Relays, control circuit:										
	Establishments with this product class primary	40	9.3	86.4	7.1	13.2	54.7	196.7	106.7	301.3	4.9
	Establishments with 75 percent specialization or more in class	28	4.8	45.6	3.7	6.9	30.5	110.3	54 6	162 0	3 0
3621	**Motors and generators:**										
	Entire industry	446	96.9	1 176.7	74.1	145.7	802.1	2 606.9	1 915 9	4 458.7	160 9
	Establishments with 75 percent specialization or more	406	82.1	978.9	63 6	125.0	678.2	2 166.8	1 614.9	3 728 5	138 1
36211	Fractional horsepower electric motors:										
	Establishments with this product class primary	126	44.5	494.9	36.2	70.5	368.4	1 118.4	802.3	1 885.1	55 2
	Establishments with 75 percent specialization or more in class	96	36.6	403.0	30.4	58.6	306.3	920 0	678.3	1 565 0	45 3
36212	Motors and generators, integral horsepower:										
	Establishments with this product class primary	53	26.6	372.0	18.7	37.1	237.3	797.6	506 6	1 288 5	52 8
	Establishments with 75 percent specialization or more in class	30	14.5	208.6	10.1	19.7	130.2	464.0	250 6	703 0	36 8
36213	Land transportation motors and generators:										
	Establishments with this product class primary	9	2.0	22.7	1.4	2 8	11.9	44.3	30.1	73.3	2 3
	Establishments with 75 percent specialization or more in class	5	1.0	14.8	0.6	1.2	6.1	28 9	18 2	46 1	(D)
36214	Prime mover generator sets:										
	Establishments with this product class primary	20	5 4	77.3	3 5	6.7	44.5	192.8	205 3	393 4	11 0
	Establishments with 75 percent specialization or more in class	16	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36217	Motor generator sets, fractional horsepower:										
	Establishments with this product class primary	22	7.1	74.6	5 8	11.7	52 8	146.8	128 1	271 3	11 7
	Establishments with 75 percent specialization or more in class	17	5.9	62.1	4.9	9.8	44.7	120 9	105 4	223 8	8 1
36218	Motor generator sets, integral horsepower:										
	Establishments with this product class primary	20	6.0	72 2	4.4	8.6	46 2	194 4	140 4	328 3	19 4
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36219	Motor, generator, and motor generator set parts:										
	Establishments with this product class primary	29	3 0	39.0	2 2	4.9	24 7	68 4	67 6	137 1	3 3
	Establishments with 75 percent specialization or more in class	22	2.1	26 2	1.7	3 8	19 9	45 3	40 9	87 2	3 1
3622	**Industrial controls:**										
	Entire industry	727	55 5	727.5	35.4	69.1	380 6	1 604 2	963 3	2 514 6	57 6
	Establishments with 75 percent specialization or more	675	42 2	544.8	26 6	51 1	275.9	1 234 9	742 8	1 936 5	47 4
3623	**Welding apparatus, electric:**										
	Entire industry	176	17.5	285.7	11 3	23 0	165 1	582 7	634 2	1 191 2	38 7
	Establishments with 75 percent specialization or more	152	12.5	214.8	8 7	18 1	135 5	443 2	515 7	942 4	31 9
36231	Arc welding machines, components and accessories:										
	Establishments with this product class primary	31	7 0	94 2	4 6	9 5	52 6	205 1	214 4	406 7	8 2
	Establishments with 75 percent specialization or more in class	19	2 8	41 4	2 0	4 2	24 8	84 8	92 7	173 1	1 9
36232	Arc welding electrodes, metal:										
	Establishments with this product class primary	25	6 6	129 3	4 1	7 9	74 0	271 0	332 8	596 6	21 2
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36233	Resistance welders, components, accessories										
	Establishments with this product class primary	33	3 0	51 6	2 0	4 6	32 2	87 8	66 7	155 5	2 3
	Establishments with 75 percent specialization or more in class	23	1 5	26 0	1 1	2 6	17 7	46 1	34 5	82 3	1 1

See footnotes at end of table

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3624	**Carbon and graphite products:**										
	Entire industry	74	12.1	164.1	9.0	17.7	110.9	408.4	337.5	735.2	35.4
	Establishments with 75 percent specialization or more	64	10.7	148.0	8.0	15.6	100.4	375.7	319.7	685.2	33.7
36241	Electrodes, carbon and graphite:										
	Establishments with this product class primary	9	4.7	67.6	3.5	7.0	48.0	189.4	219.7	407.1	21.0
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36249	Carbon and graphite products except electrodes:										
	Establishments with this product class primary	40	7.2	93.2	5.3	10.3	60.6	211.4	112.6	315.6	12.3
	Establishments with 75 percent specialization or more in class	32	4.3	55.9	3.1	6.0	35.5	122.6	73.1	192.8	6.9
3629	**Electrical industrial apparatus, n.e.c.:**										
	Entire industry	223	16.5	188.6	12.2	23.4	113.4	411.0	294.0	692.4	16.8
	Establishments with 75 percent specialization or more	203	13.0	148.4	9.6	18.4	87.9	325.9	232.1	551.0	15.0
36291	Capacitors for electrical applications:										
	Establishments with this product class primary	9	4.0	47.1	3.1	6.0	31.5	104.5	89.3	191.0	6.0
	Establishments with 75 percent specialization or more in class	5	2.2	27.4	1.8	3.5	17.7	60.4	50.9	110.5	(D)
36292	Rectifying apparaus, except electronic:										
	Establishments with this product class primary	42	7.1	83.7	5.0	9.8	47.0	195.2	127.5	314.8	6.3
	Establishments with 75 percent specialization or more in class	33	5.2	60.4	3.7	7.4	34.3	151.3	93.0	241.2	5.3
36293	Electrical equipment for industrial use, n.e.c.:										
	Establishments with this product class primary	40	4.0	42.1	2.9	5.5	24.7	79.5	57.1	133.7	2.9
	Establishments with 75 percent specialization or more in class	35	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3612	Transformers	1977	2,201.8	2,051.1	109.5	41.2	95	2,117.8	2,051.1	66.7	97
		1972	1,461.9	1,387.4	55.4	19.1	96	1,436.1	1,387.4	48.7	97
		1967	1,188.4	1,113.3	60.1	15.0	95	1,133.6	1,113.3	20.3	98
3613	Switchgear and switchboard apparatus	1977	3,541.0	2,994.9	279.0	267.1	91	3,298.4	2,994.9	303.5	91
		1972	2,123.5	1,840.5	191.8	91.2	91	2,058.8	1,840.5	218.3	89
		1967	1,690.0	1,435.1	177.6	77.3	89	1,598.5	1,435.1	163.4	90
3621	Motors and generators	1977	4,458.7	4,001.6	353.4	103.7	92	4,976.2	4,001.6	974.6	80
		1972	2,501.7	2,144.8	216.5	140.4	91	2,635.7	2,144.8	490.9	81
		1967	2,402.3	1,926.6	383.4	92.3	83	2,319.0	1,926.8	392.4	83
3622	Industrial controls	1977	2,514.6	2,084.0	312.2	118.4	87	2,429.1	2,084.0	345.1	86
		1972	1,424.1	1,044.1	298.1	81.9	79	1,245.6	1,044.1	201.5	84
		1967	1,102.8	872.7	183.3	46.8	83	1,071.4	872.7	198.7	81
3623	Welding apparatus, electric	1977	1,191.2	972.1	154.8	64.3	86	1,035.0	972.1	62.9	94
		1972	659.6	524.4	98.0	37.2	84	570.0	524.4	45.6	92
		1967	493.3	406.7	40.5	46.1	91	432.9	406.7	26.2	94
3624	Carbon and graphite products	1977	735.2	619.3	38.4	77.5	94	663.0	619.3	43.7	93
		1972	377.4	328.6	17.3	31.5	95	335.9	328.6	7.3	98
		1967	296.4	282.5	12.7	1.2	96	295.8	282.5	13.3	96
3629	Electrical industrial apparatus, n.e.c.	1977	692.4	569.2	82.5	40.7	87	699.6	569.2	130.4	81
		1972	449.4	355.2	61.9	32.3	85	442.9	355.2	87.7	80
		1967	328.8	268.2	50.2	11.6	84	398.5	268.2	130.3	67

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Transformers (SIC 3612)	Switchgear and switchboard apparatus (SIC 3613)	Motors and generators (SIC 3621)	Industrial controls (SIC 3622)	Welding apparatus, electric (SIC 3623)	Carbon and graphite products (SIC 3624)	Electrical industrial apparatus, n.e.c. (SIC 3629)	Other industries
	Total	(X)	2,201.8	3,541.0	4,458.7	2,514.6	1,191.2	735.2	692.4	(X)
	Primary products	(X)	2,051.1	2,994.9	4,001.6	2,084.0	972.1	619.3	569.2	(X)
	Secondary products	(X)	109.5	279.0	353.4	312.2	154.8	38.4	82.5	(X)
	Miscellaneous receipts	(X)	41.2	267.1	103.7	118.4	64.3	77.5	40.7	(X)
3612-	Transformers	2,117.8	2,051.1	(D)	3.6	-	(D)	-	4.7	51.1
36122	Power and distribution transformers, except parts	1,320.9	1,305.1	-	-	-	-	-	-	15.8
36124	Fluorescent lamp ballasts	210.7	210.7	-	-	-	-	-	-	-
36125	Specialty transformers, except lamp ballasts	342.8	303.1	(D)	(D)	-	-	-	(D)	29.3
36127	Other transformers, parts for all transformers	168.1	158.5	-	(D)	-	-	-	(D)	5.2
36120	Transformers, n.s.k	75.3	73.7	-	(D)	-	(D)	-	-	0.8
3613-	Switchgear and switchboard apparatus	3,298.4	(D)	2,994.9	23.1	121.3	-	-	(D)	124.4
36131	Switchgear, except ducts and control relays	841.4	(D)	770.0	(D)	7.8	-	-	(D)	19.9
36132	Power circuit breakers, all voltages	261.2	(D)	244.4	(D)	(D)	-	-	(D)	.7
36133	Low voltage panelboards and distribution boards	878.2	-	831.7	(D)	(D)	-	-	-	23.2
36134	Fuses and fuse equipment under 2300 volts	201.6	-	185.4	-	(D)	-	-	-	(D)
36135	Molded case circuit breakers, 750 volts and below	492.0	-	464.0	-	2.3	-	-	-	25.6
36136	Ducts, including plug-in units, 750 volts or less	88.5	-	82.0	-	(D)	-	-	-	(D)
36137	Relays, control circuit	356.3	-	244.3	(D)	80.0	-	-	-	(D)
36130	Switchgear and switchboard apparatus, n.s.k	179.3	-	173.1	-	.6	-	-	-	5.6
3621-	Motors and generators	4,976.2	-	19.5	4,001.6	(D)	(D)	-	(D)	894.3
36211	Fractional horsepower electric motors	1,956.3	-	(D)	1,746.7	(D)	-	-	(D)	198.6
36212	Motors and generators, integral horsepower	1,163.0	-	-	1,030.3	(D)	(D)	-	-	(D)
36213	Land transportation motors and generators	205.7	-	(D)	81.3	(D)	-	-	-	112.8
36214	Prime mover generator sets	643.9	-	-	305.0	-	(D)	-	-	(D)
36217	Motor generator sets, fractional horsepower	274.5	-	(D)	237.5	(D)	-	-	(D)	(D)
36218	Motor generator sets, integral horsepower	288.1	-	-	281.0	(D)	(D)	-	(D)	(D)
36219	Motor, generator, and motor generator set parts	354.0	-	(D)	235.7	(D)	(D)	-	-	(D)
36210	Motors and generators, n.s.k	90.7	-	-	84.0	-	-	-	-	6.8
36220	General industry power circuit devices	2,429.1	(D)	126.5	40.8	2,084.0	-	-	(D)	169.9
3623-	Welding apparatus, electric	1,035.0	-	-	(D)	(D)	972.1	-	-	(D)
36231	Arc welding machines, components and accessories	407.8	-	-	(D)	(D)	373.1	-	-	(D)
36232	Arc welding electrodes, metal	447.6	-	-	-	-	440.2	-	-	7.4
36233	Resistance welders, components, accessories	136.9	-	-	-	-	119.1	-	-	17.8
36230	Welding apparatus, electric, n.s.k	42.7	-	-	-	-	39.8	-	-	3.0
3624	Carbon and graphite products	663.0	-	-	-	-	-	619.3	(D)	(D)
36241	Electrodes, carbon and graphite	362.0	-	-	-	-	-	329.5	-	32.5
36249	Carbon and graphite products, except electrodes	293.1	-	-	-	-	-	282.4	(D)	(D)
36240	Carbon and graphite products, n.s.k	7.9	-	-	-	-	-	7.3	-	.6
3629-	Electrical industrial apparatus, n.e.c	699.6	(D)	18.8	(D)	(D)	(D)	(D)	569.2	45.9
36291	Capacitors for electrical applications	154.8	-	-	-	-	-	-	135.8	19.1
36292	Rectifying apparatus, except electronic	310.2	(D)	(D)	(D)	(D)	(D)	-	257.1	15.1
36293	Electrical equipment for industrial use, n.e.c	182.2	-	(D)	(D)	(D)	-	(D)	127.1	10.4
36290	Electrical industrial apparatus, n.e.c., n.s.k	51.9	.1	.1	-	.8	.3	-	49.3	1.4
	Other shipments by 4-digit product group:									
2542-	Metal partitions and fixtures	(X)	(D)	-	-	-	-	-	-	(X)
2899-	Chemicals preparations, n.e.c	(X)	-	-	-	-	(D)	-	.3	(X)
3069-	Fabricated rubber products, n.e.c	(X)	-	-	-	-	2.0	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	-	-	(D)	(D)	(X)
3231-	Products of purchased glass	(X)	-	3.7	-	-	-	-	-	(X)
3264-	Porcelain electrical supplies	(X)	(D)	-	-	-	-	-	-	(X)
3297-	Nonclay refractories	(X)	-	-	-	-	-	16.8	-	(X)
3315-	Steel wire and related products	(X)	-	-	-	-	(D)	-	-	(X)
3321-	Gray iron castings	(X)	-	-	(D)	-	-	-	-	(X)
3351-	Copper rolling and drawing	(X)	-	(D)	(D)	-	(D)	-	-	(X)
3369-	Nonferrous castings, n.e.c	(X)	-	-	-	(D)	(D)	-	-	(X)
3399-	Primary metal products, n.e.c	(X)	-	(D)	-	-	(D)	(D)	-	(X)
3444-	Sheet metal work	(X)	-	(D)	(D)	(D)	-	-	-	(X)
3463-	Nonferrous forgings	(X)	-	-	(D)	(D)	-	-	-	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	-	(D)	-	-	-	(D)	(X)
3494-	Valves and pipe fittings	(X)	-	(D)	(Z)	.4	-	-	-	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	-	-	-	(D)	-	-	(X)
3511-	Turbines and turbine generator sets	(X)	(D)	-	46.6	-	-	-	-	(X)
3519-	Internal combustion engines, n.e.c	(X)	-	(D)	(D)	-	-	-	-	(X)
3541-	Machine tools, metal cutting types	(X)	-	-	(D)	-	(D)	-	-	(X)
3542-	Machine tools, metal forming types	(X)	-	-	-	-	(D)	-	-	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	(D)	(D)	(D)	(D)	(D)	-	(X)
3545-	Machine tool accessories	(X)	-	-	(D)	(D)	(D)	-	-	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis—Shipments by Product Class and Industry: 1977**—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Transformers (SIC 3612)	Switchgear and switchboard apparatus (SIC 3613)	Motors and generators (SIC 3621)	Industrial controls (SIC 3622)	Welding apparatus, electric (SIC 3623)	Carbon and graphite products (SIC 3624)	Electrical industrial apparatus, n.e.c. (SIC 3629)	Other industries
	Other shipments by 4-digit product group--Con.									
3549-	Metalworking machinery, n.e.c.	(X)	-	-	-	(D)	(D)	-	-	(X)
3551-	Food products machinery	(X)	-	-	-	-	(D)	-	-	(X)
3559-	Special industry machinery, n.e.c.	(X)	-	-	-	(D)	(D)	-	-	(X)
3563-	Air and gas compressors	(X)	-	-	(D)	-	-	-	-	(X)
3564-	Blowers and fans	(X)	-	-	(D)	(D)	-	-	-	(X)
3566-	Speed chargers, drives, and gears	(X)	-	-	(D)	(D)	-	-	-	(X)
3567-	Industrial furnaces and ovens	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3568-	Power transmission equipment, n.e.c.	(X)	-	-	(D)	-	-	-	-	(X)
3573-	Electronic computing equipment	(X)	-	-	-	(D)	-	-	-	(X)
3585-	Refrigeration and heating equipment	(X)	-	-	(D)	(D)	(D)	-	-	(X)
3643-	Current-carrying wiring devices	(X)	21.0	34.9	-	8.1	.4	3.4	7.0	(X)
3644-	Noncurrent-carrying wiring devices	(X)	-	(D)	-	(D)	-	-	-	(X)
3661-	Telephone and telegraph apparatus	(X)	-	-	(D)	-	-	-	(D)	(X)
3662-	Radio and television communication equipment	(X)	(D)	(D)	(D)	3.5	(D)	-	(D)	(X)
3674-	Semiconductors and related devices	(X)	-	-	(D)	(D)	-	-	-	(X)
3675-	Electronic capacitors	(X)	-	.2	-	-	-	-	17.8	(X)
3676-	Electronic resistors	(X)	-	.2	.3	64.7	-	3.3	-	(X)
3677-	Electronic coils and transformers	(X)	13.5	3.7	-	1.1	-	-	4.3	(X)
3679-	Electronic components, n.e.c.	(X)	13.1	4.8	.2	5.9	-	-	3.1	(X)
3694-	Engine electrical equipment	(X)	-	-	(D)	-	-	-	-	(X)
3699-	Electrical equipment and supplies, n.e.c.	(X)	-	(D)	(D)	(D)	-	-	(D)	(X)
3724-	Aircraft engines and engine parts	(X)	.6	-	(D)	-	-	-	-	(X)
3811-	Engineering and scientific instruments	(X)	-	-	(D)	(D)	-	-	-	(X)
3822-	Environmental controls	(X)	-	4.3	.1	13.2	-	-	-	(X)
3823-	Process control instruments	(X)	-	4.2	-	6.5	.2	-	-	(X)
3825	Instruments to measure electricity	(X)	-	14.1	(D)	(D)	(D)	-	(D)	(X)
3873-	Watches, clocks, and watchcases	(X)	(D)	-	(D)	-	-	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	2.6	6.0	25.8	6.9	11.4	1.5	1.1	(X)
99980 00	Miscellaneous receipts, except contract work and resales	(X)	(X)	(X)	(X)	(X)	(X)	5.1	14.2	(X)
99980 13	Sales of scrap and refuse	(X)	4.7	10.0	15.2	4.4	(X)	(X)	(X)	(X)
99980 61	Receipts for repair work	(X)	(X)	4.6	11.8	12.8	5.7	(X)	(X)	(X)
99980 98	Other miscellaneous receipts	(X)	22.8	3.5	3.1	4.1	4.0	(X)	(X)	(X)
99989 00	Resales	(X)	11.1	242.6	48.2	88.5	43.6	70.9	24.7	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3612-	3499 Fabricated metal products, n.e.c.	(D)
	3662 Radio and television transmitting, signaling and detection equipment and apparatus	(D)
	3825 Instruments to measure electricity	(D)
3613-	3643 Current carrying wiring devices	(D)
	3644 Noncurrent carrying wiring devices	(D)
	3662 Radio and television transmitting, signaling and detection equipment and apparatus	(D)
	3674 Semiconductors and related devices	(D)
	3822 Environmental controls	(D)
	3823 Process control instruments	(D)
	3825 Instruments to measure electricity	(D)
3621-	3429 Hardware, n.e.c.	(D)
	3511 Turbines and turbine generator sets	(D)
	3519 Internal combustion engines, n.e.c.	330.0
	3531 Construction machinery and equipment	(D)
	3532 Mining machinery and equipment, except oil field machinery and equipment	(D)
	3537 Industrial trucks, tractors, trailers, and stackers	(D)
	3546 Power driven hand tools	(D)
	3561 Pumps and pumping equipment	(D)
	3563 Air and gas compressors	(D)
	3564 Blowers and fans	(D)
	3566 Speed changers, drives, and gears	10.4
	3634 Housewares and fans	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3621-	3662 Radio and television transmitting, signaling and detection equipment and apparatus	(D)
	3679 Electronic components, n.e.c.	16.3
	3714 Motor vehicle parts and accessories	(D)
	3728 Aircraft parts and auxiliary equipment, n.e.c.	(D)
	3743 Railroad equipment	(D)
	3873 Watches, clocks, and watchcases	(D)
3622-	3449 Miscellaneous metalwork	(D)
	3494 Valves and pipe fittings, except plumbers brass goods	(D)
	3643 Current-carrying wiring devices	37.2
	3644 Noncurrent-carrying wiring devices	(D)
	3679 Electronic components, n.e.c.	(D)
	3728 Aircraft parts and auxiliary equipment, n.e.c.	(D)
	3822 Environmental controls	(D)
	3825 Instruments to measure electricity	12.7
	3832 Optical instruments and lenses	(D)
3623-	3452 Bolts, nuts, screws, rivets and washers	(D)
	3544 Special dies and tools, die sets, jigs and fixtures, and industrial molds	(D)
	3549 Metalworking machinery, n.e.c.	(D)
3624-	3334 Primary production of aluminum	(D)
3629-	3675 Electronic capacitors	18.0
	3694 Electronic equipment for internal combustion engines	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Product shipments[1]			Product shipments		
				Quantity[2]	Total kVA capacity (millions)	Value (million dollars)	Quantity	Total kVA capacity (millions)	Value (million dollars)
	TRANSFORMERS								
3612- --	Total	.....	(NA)	(X)	(X)	2,117.8	(X)	(X)	1,436.1
36122 --	Power and distribution transformers, except parts	.....	(NA)	(X)	(X)	1,320.9	(X)	(X)	913.9
	Distribution transformers, liquid immersed, all voltages, and dry-type electric utility distribution transformers, excluding general purpose transformers:								
	Overhead or pole top transformers:								
36122 02	100 kVA and below, single phase	Thousands	19	1,082.9	29.3	365.6	1,215.4	(S)	263.6
36122 04	101 kVA through 500 kVA, single phase		10	15.0	3.7	25.5	26.3	5.8	25.5
36122 05	500 kVA and below, three phase		7	20.1	*1.8	18.5	11.7	(S)	8.6
36122 11	Compartmentalized pad mounted transformers, single phase, 500 kVA and smaller		12	216.8	6.5	136.6	172.7	(S)	82.3
36122 14	Subsurface, underground, and conventional subway type transformers, single phase, 500 kVA and below		10	(S)	(S)	31.5	32.2	1.7	18.7
36122 19	Compartmentalized pad mounted transformers and subsurface, underground, and conventional subway type transformers, three phase, 500 kVA and smaller		14	32.5	*6.9	84.0	26.7	6.0	47.1
	Small power transformers, single and three phase, all voltages:								
36122 21	Compartmentalized pad mounted transformers and subsurface, underground, and conventional subway type transformers, self-cooled equivalent ratings of 501 kVA through 2,500 kVA liquid immersed		13	5.5	6.9	41.2	5.9	6.5	26.6
	Conventional transformers and auto-transformers, with and without load tap changing, primary unit substation transformers, and single circuit unit substations:								
36122 22	Liquid-immersed, self-cooled equivalent ratings of 501 kVA through 2,500 kVA		11	2.0	(S)	22.7	5.1	(S)	34.6
36122 24	Liquid-immersed, self-cooled equivalent ratings of 2,500 kVA through 10,000 kVA		12	2.0	*9.8	72.3	2.0	12.7	46.1
	Dry-type, self-cooled equivalent ratings of 501 kVA through 10,000 kVA, including dry-type compartmentalized pad mounted transformers:								
36122 26	Complete apparatus		9	**2.7	*2.7	11.4	4.3	(S)	13.3
36122 28	Core and coil		2				1.2	(S)	1.5
	Secondary unit substation transformers, single and three phase, all kVA ratings, all high voltages, and low voltages below 1,000 volts (units sold with or without secondary switching equipment but with a flange or throat for connection to such equipment):								
36122 32	Liquid-immersed		9	*3.5	*5.0	41.7	3.4	(S)	25.6
36122 33	Dry-type, complete apparatus		8	1.6	*2.1	24.6	11.6	(S)	18.1
36122 34	Dry-type, core and coil		6	(S)	(S)	12.8	.9	(S)	5.2
	Large power transformers, single and three phase, liquid-immersed and dry type, all voltages, including primary unit substation transformers, and all ratings of regulating transformers (kVA rating based on self-cooled nameplate rating for OA/FA, or OA/FA/FA, or OA/FOA/FOA):								
36122 35	Network transformers, liquid-immersed and dry-type, all ratings, less network protector		4	.6	.5	8.9			
36122 36	Self-cooled equivalent ratings of 10,001 kVA through 25,000 kVA		11	.9	17.8	130.5	3.4	(S)	268.9
36122 38	Self-cooled equivalent ratings of 25,001 kVA and above		7	.5	**62.6	257.9			
36122 00	Power and distribution transformers, n.s.k.	Thousands	(NA)	(X)	(X)	35.2	(X)	(X)	28.2

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
36124 --	Fluorescent lamp ballasts:						
	As reported in census of manufactures	.....	9	(X)	210.7	(X)	160.6
	As reported in Current Industrial Reports MQ-36C, Fluorescent Lamp Ballasts	Millions.....	(NA)	56.8	205.6	55.0	163.0
	Uncorrected power factor type:						
36124 61	Rapid start		(NA)	[3]4.5	[3]11.8		
36124 66	All other uncorrected power factor type		(NA)				
	Switch start:						
36124 62	20 watts or less		(NA)	11.3	8.5	13.4	13.5
36124 63	21 to 40 watts		(NA)	1.3	2.4		
36124 65	More than 40 watts	Millions.....	(NA)	([3])	([3])		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3612- --	TRANSFORMERS--Con.						
36124 --	Fluorescent lamp ballasts--Con.						
	As reported in Current Industrial Reports MQ-36C, Fluorescent Lamp Ballasts--Con.						
	Corrected power factor type:						
	Slimline and instant start:						
36124 67	Two lamp 96T12 and 72T12	Millions	(NA)	6.7	37.6	33.9	34.4
36124 68	Other		(NA)	.9	6.4	5.2	5.3
	Rapid start:						
36124 71	Two lamp 40 watts		(NA)	27.4	92.0	68.6	69.6
36124 72	800 to 1,000 mA		(NA)	2.0	24.6	20.1	20.3
36124 73	1,500 mA		(NA)	.6	10.8	17.0	17.3
36124 74	Other rapid start	Millions	(NA)	2.1	9.8		
	Switch start:						
36124 75	20 watts or less	Millions	(NA)	(D)	(D)	(D)	(D)
36124 76	Two lamp 40 watts		(NA)	(D)	(D)	.9	.9
36124 77	21 to 40 watts, except two lamp 40 watts		(NA)	.1	.8	.2	.2
36124 78	More than 40 watts		(NA)	(D)	(D)	(D)	(D)
36124 79	All other corrected power factor type	Millions	(NA)	(D)	(D)	(D)	(D)
36125 --	Specialty transformers, except fluorescent lamp ballasts		(NA)	(X)	342.8	(X)	225.3
36125 13	Signalling, doorbell, and toy transformers	Millions	2			3.0	9.3
36125 15	Control transformers, 250 VA and smaller, except machine tool applications		14	3.8	13.2	.6	3.3
36125 17	Machine tool control transformers		12				
36125 21	Luminous tube transformers for hot and cold operation (1,000 volts and above)		2	1.8	23.8	1.7	8.1
36125 31	Ignition, including oil- and gas-furnace ignition applications, but excluding internal combustion engine ignition		6	1.1	12.4	1.2	8.4
	High intensity discharge lamp transformers (ballasts):						
36125 44	Mercury vapor lamp		5	1.1	16.1	13.0	48.7
36125 45	Metal halide lamp		5	.4	7.9	(4)	(4)
36125 46	High pressure sodium vapor lamp	Millions	5	.6	14.9	(4)	(4)
36125 60	Instrument transformers		6	(X)	49.1	(X)	(5)
	Commercial, institutional, and industrial general-purpose transformers, all voltages, single and three phase, excluding electric utility distribution transformers:						
36125 81	0.250 kVA through 3 kVA	Millions	22	3.1	52.8	1.2	11.5
36125 83	3.01 kVA through 15 kVA		10	.1	14.0	.2	11.0
36125 84	15.01 kVA through 100 kVA		13	2.7	31.8	2.1	16.2
36125 87	100.01 kVA through 500 kVA		14	3.5	15.7	(S)	5.0
36125 89	Saturable core reactors		6	1.3	2.0	(S)	3.2
36125 93	Voltage regulating transformers, except transmission and distribution voltage regulators		4			.5	7.7
36125 95	Miscellaneous specialty regulating transformers and reactors, n.e.c., including series, circuit lighting transformers, and low pressure sodium vapor lamp transformers, except for electronic application	Millions	12	18.6	55.0	(S)	420.0
36125 00	Speciality transformers, n.s.k.		(NA)	(X)	34.2	(X)	567.9
36127 --	Power regulators, boosters, reactors, other transformers, and parts for all transformers		(NA)	(X)	168.1	(X)	111.4
	Transmission and distribution voltage regulators, single and three phase:						
36127 13	Induction voltage regulators, all kVA ratings, 1,201 volts and above	Millions	2				
36127 53	Step voltage regulators, 1,201 through 69,000 volts, 250 kVA and smaller (single phase), 2,500 kVA and smaller (three phase)	Millions	3	(S)	34.2	(S)	33.2
	Reactor and special purpose transformers, liquid-immersed and dry-type, all voltages, and kVA's, such as:						
36127 31	Reactors, furnace transformers, rectifer transformers, locomotive transformers, grounding transformers, ground fault neutralizers, mobile transformers, mobile unit substations, and integral single-circuit unit substations		17	(X)	66.5		
36127 73	Renewal and repair parts for all specialty transformers		3			(X)	69.6
36127 77	Parts and accessories for all transformers, except specialty transformers		14	(X)	57.9		
36127 00	Transformers, parts, and supplies, power regulators, boosters, and reactors, n.s.k.		(NA)	(X)	9.5	(X)	8.6
36120 00	Transformers, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	53.6	(X)	20.4
36120 02	Transformers, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	21.7	(X)	4.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix B, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	1972, value of product shipments (million dollars)
	SWITCHGEAR AND SWITCHBOARD APPARATUS			
3613- --	Total	(NA)	3,298.4	2,058.8
36131 --	Switchgear, except ducts and control circuit relays:			
	As reported in census of manufacturers	116	841.4	597.1
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	r845.0	564.1
36131 11	Automatic and manual control panels (generators, transformers, feed-controls, etc.)	(NA)	80.0	33.4
36131 09	Metal-clad switchgear (using power circuit breakers, oil and oilless); all voltages above 1,000 volts up to and including 38 kV, excluding load interrupter switch gear	(NA)	254.5	
36131 10	Metal-enclosed load interrupter switchgear assemblies, all voltages, including parts	(NA)	41.6	
36131 13	Metal-enclosed low-voltage power circuit breaker switchgear assemblies, 1,000 volts and below, including parts, but excluding load interrupter switchgear	(NA)	88.0	266.3
36131 17	Metal-enclosed bus (sold separately), above 1,000 volts, including isolated, segregated, nonsegregated, and cable bus	(NA)	30.3	
36131 31	Relays, switchgear type excluding industrial control type; regulators; and miscellaneous switchboard devices (sold separately)	(NA)	96.4	75.6
	Power switching equipment, including attachments, auxiliaries, bus supports and fittings, accessories, and single phase circuit reclosers, but excluding power fuses sold separately, 2,300 volts and over:			
36131 41	Outdoor, excluding structures	(NA)	100.5	87.1
36131 45	Indoor	(NA)	6.2	5.1
36131 51	Power fuses and fuse links for 2,300 volts and over, a.c. service, excluding distribution cutouts	(NA)	38.3	13.6
36131 81	Power and ground connectors generally used in substation construction	(NA)	8.4	
36131 91	Overhead transmission and distribution connectors (clamps, taps, terminals, and splices)	(NA)		
36131 93	Transmission and distribution connectors, n.e.c., including underground deadends, hotline taps, stirrups, repair sleeves, etc	(NA)	67.9	52.0
36131 83	Distribution cutouts	(NA)	32.9	31.0
36132 --	Power circuit breakers, all voltages:			
	As reported in census of manufactures	25	261.2	182.7
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	260.4	172.7
36132 15	Power circuit breakers (sold separately) for use in metal-clad switchgear (oil and oilless), over 1,000 volts, including parts	(NA)	39.5	
36132 20	Power circuit breakers, free standing, oil and oilless, from 15.5 kV and above, including parts	(NA)	120.3	
36132 25	Power circuit breakers (sold separately) in individual enclosures and/or for use in low-voltage switchgear, 1,000 volts and below, including parts, excluding molded case circuit breakers	(NA)	30.9	172.7
36132 30	All other power circuit breakers (sold separately), oil and oilless, network protectors and automatic circuit reclosers, including parts	(NA)	69.7	
36133 --	Low voltage panelboards and distribution boards and other switching and interrupting devices, 750 volts and below:			
	As reported in census of manufactures	121	878.2	539.0
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	873.6	555.3
	Panelboards, including enclosing cabinets:			
36133 11	Fusible, including combination switch fuse	(NA)	79.3	52.8
36133 12	Circuit breaker	(NA)	132.7	78.6
	Distribution switchboards:			
36133 15	Fusible	(NA)	60.7	41.3
36133 17	Circuit breaker	(NA)	97.0	54.4
36133 19	Other, including theater switchboards	(NA)	25.0	12.0
	Switches, except switches commonly known as snap, toggle, and rotary switches; and switch devices intended primarily to be used with electric motor controls:			
	Knife switches, enclosed:			
36133 21	Heavy duty	(NA)	58.0	63.1
36133 22	General duty	(NA)	34.7	
	Load centers:			
36133 24	Enclosed fusible, service entrance, and branch circuit cutouts	(NA)	3.7	11.6
36133 26	Circuit breaker	(NA)	173.1	93.3
36133 32	Grouped metering panels (combinations of two or more meters and related switching units with overcurrent protection associated with each meter, including accessory components; excluding single socket load combinations)	(NA)	14.0	
36133 33	Other switches, excluding snap, bolted, toggle, push, etc.; including open knife switches, motor contact, motor disconnect, meter service equipment other than metermounting, and test devices)	(NA)	56.2	148.2
36133 98	Other low voltage switchgear apparatus	(NA)	139.2	

See footnote at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
3613- --	SWITCHGEAR AND SWITCHBORAD APPARATUS--Con.			
36134 --	Fuses and fuse equipment, under 2,300 volts, except power distribution cutouts:			
	As reported in census of manufactures	25	201.6	99.7
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	r188.9	92.4
36134 31	Nonrenewable plug fuses	(NA)	20.9	13.5
36134 51	Nonrenewable cartridge fuses	(NA)	83.3	45.3
36134 71	Renewable plug and cartridge fuses, including renewal links	(NA)	11.2	7.6
36134 93	Other fuses and open fuse material, including cutouts, clips, bases, etc	(NA)	73.5	26.0
36135 --	Molded case circuit breakers, 750 volts and below:			
	As reported in census of manufactures	23	492.0	283.0
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	r511.2	283.1
36135 11	Industrial type, with or without ground fault detection capability, assembled as complete units in supporting and enclosing housing of insulating materials; with or without accessories or attachments	(NA)	210.9	112.7
36135 12	Residential or light duty type, with or without ground fault detection capability as an integral part, primarily for load center application assembled as complete units in supporting and enclosing housing of insulating materials.	(NA)	208.7	110.9
36135 31	Individually enclosed industrial type, excluding panelboards and busway plugs	(NA)	13.2	
	Other molded case circuit breakers:			
36135 91	Marine and Navy	(NA)	5.3	59.5
36135 92	Aircraft and aerospace	(NA)		
36135 93	Automotive	(NA)	73.1	
36135 94	Electronic	(NA)		
36135 95	All other	(NA)		
36136 --	Ducts, including plug-in units and accessories (not exceeding 750 volts), consisting of enclosed sectionalized prefabricated bus bars rated 20 amperes or more and associated structures and fittings:			
	As reported in census of manufactures	18	88.5	65.7
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	84.0	60.5
36136 11	Busways	(NA)	77.2	60.5
36136 31	Trolley type and lighting distribution ducts	(NA)	6.8	
36137 --	Relays, control circuit:			
	As reported in census of manufactures	58	356.3	223.4
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	344.1	212.5
36137 01	A.c. and d.c. magnetic control circuit relays, excluding overload relays	(NA)	313.0	212.5
36137 04	Starter accessories, including overload relays	(NA)	31.1	
36130 00	Switchgear and switchboard apparatus, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	108.5	54.7
36130 02	Switchgear and switchboard apparatus, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	70.8	13.5

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	MOTORS AND GENERATORS						
3621- --	Total		NA)	(X)	4,976.2	(X)	2.635.7
36211 --	Fractional horsepower motors:						
	As reported in census of manufactures		120	(X)	1,956.3	(X)	1,137.7
	As reported in Current Industrial Reports MA-36H, Motors and Generators		(NA)	214.4	1,999.5	(X)	1,081.7
36211 01	Automobile accessory motors, including all accessory motors, such as heater, convertible top, and automatic window, but excluding starting motors and generators	Millions	(NA)	64.9	459.9	38.7	251.7
	Aircraft and space motors, excluding generators:						
36211 03	A.c.		(NA)	.1	16.2	.1	12.8
36211 04	D.c.		(NA)	.1	14.1	.1	8.4
36211 05	Toy motors (all sizes), including those for advertising displays, etc		(NA)	21.6	50.6	18.5	29.8
36211 07	Clock-type synchronous and subsynchronous timing motors	Millions	(NA)				

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

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1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
3621- --	MOTORS AND GENERATORS--Con.						
36211 --	Fractional horsepower motors--Con.						
	As reported in Current Industrial Reports MA-36H, Motors and Generators--Con.						
	Universal motors, cased (punching diameter):						
36211 08	Less than 2-1/8" diameter	Millions	(NA)	4.0	14.2	.2	2.3
36211 09	2-1/8" diameter and over but less than 2-7/16" diameter		(NA)				
36211 10	2-7/16" diameter and over but less than 2-7/8" diameter		(NA)	2.9	11.8	.9	5.2
36211 11	2-7/8" diameter and over but less than 3-2/16" diameter		(NA)	1.5	13.6	.6	4.0
36211 12	3-3/16" diameter and over but less than 3-11/16" diameter		(NA)	.3	7.8	3.0	28.2
36211 13	3-11/16" diameter and over but less than 4-3/8" diameter		(NA)	3.0	45.6		
36211 14	4-3/8" diameter and over		(NA)				
	Universal motors, uncased (punching diameter) (consisting of stator, rotor, and brush holder mechanisms, without end shields, bearings, or conventional frame, usually called motor parts):						
36211 15	Less than 2-1/8" diameter		(NA)	6.0	18.0	2.6	5.9
36211 16	2-1/8" diameter and over but less than 2-7/16" diameter		(NA)				
36211 17	2-7/16" diameter and over but less than 2-7/8" diameter		(NA)				
36211 18	2-7/8" diameter and over but less than 3-2/16" diameter		(NA)	.8	5.7	.9	5.5
36211 19	3-3/16" diameter and over but less than 3-11/16" diameter		(NA)	.6	6.6		
36211 20	3-11/16" diameter and over but less than 4-3/8" diameter		(NA)				
36211 21	4-3/8" diameter and over		(NA)				
	Universal motors and generators, direct current (case diameter) excluding automotive starting motors, generators, and accessory motors:						
36211 22	Less than 3" diameter (up to 1/70 hp)		(NA)	5.9	55.0	3.6	22.9
36211 23	3" diameter and over but less than 4-5/8" diameter (1/70 hp and over but less than 1/20 hp)		(NA)	2.4	45.1	.7	15.2
36211 24	4-5/8" diameter and over but less than 6" diameter (1/20 hp and over but less than 1/16 hp)		(NA)	.1	20.0	.1	6.3
36211 25	6" diameter and over but less than 7-1/8" diameter (1/6 hp and over but less than 1 hp)		(NA)	.1	10.4	.2	8.6
36211 26	7-1/8" diameter and over but less than 9" diameter (1/6 hp and over but less than 1 hp)		(NA)	(Z)	2.9	(Z)	1.7
	Universal motors, alternating current:						
	Skeleton type shaded pole motors:						
	Less than 2-3/4" diameter:						
36211 31	Less than 5 mhp		(NA)	10.2	31.0	8.4	21.4
36211 33	Over 5 mhp		(NA)	5.0	12.6		
	2-3/4" diameter and over:						
36211 35	Less than 5 mhp		(NA)	4.4	14.1	3.4	9.9
36211 37	5 mhp and over but less than 35 mhp		(NA)	5.9	14.9		
36211 39	35 mhp and over		(NA)				
	Conventional type shaded pole motors (case diameters):						
36211 41	Less than 1-1/2" diameter, all horsepower ratings built in this diameter		(NA)	5.6	18.2	15.8	41.3
	1-1/2" diameter and over but less than 2-1/2" diameter:						
36211 42	Less than 5 mhp		(NA)				
36211 43	5 mhp and over but less than 16 mhp		(NA)				
36211 44	16 mhp and over		(NA)	14.6	72.2		
	2-1/2" diameter and over but less than 3-3/4" diameter:						
36211 45	Less than 16 mhp		(NA)	7.8	37.7	15.5	46.9
36211 46	16 mhp and over but less than 1/20 hp		(NA)	3.2	17.7	1.6	5.7
36211 47	1/20 hp and over but less than 1/10 hp		(NA)				
36211 48	1/10 hp and over		(NA)				
	3-3/4" diameter and over but less than 4-1/2" diameter:						
36211 49	Less than 16 mhp		(NA)	1.1	13.0	.5	3.1
36211 51	16 mhp and over but less than 1/20 hp		(NA)			.4	3.1
36211 52	1/20 hp and over but less than 1/10 hp		(NA)			.3	2.5
36211 53	1/10 hp and over		(NA)				
	4-1/2" diameter and over but less than 5-1/4" diameter:						
36211 54	Less than 1/20 hp		(NA)	2.2	28.4	3.0	17.0
36211 55	1/20 hp and over but less than 1/10 hp		(NA)	1.6	16.6	1.4	11.9
36211 56	1/10 hp and over but less than 1/6 hp		(NA)	.5	6.9		
36211 57	1/6 hp and over but less than 1/4 hp		(NA)	.3	4.8		
36211 58	1/4 hp and over		(NA)				
36211 59	5-1/4" diameter but less than 9" diameter, all hp ratings		(NA)	1.7	24.1	2.4	22.7
	Other a.c. motors (case diameter), including subfractional and fractional synchronous and subsynchronous timing motors, other than clock type:						
36211 61	Less than 2-1/2" diameter, all hp ratings built in this diameter	Millions	(NA)	.3	16.3	.1	7.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3621- --	MOTORS AND GENERATORS--Con.						
36211 --	Fractional horsepower motors--Con.						
	As reported in Current Industrial Reports MA-36H, Motors and Generators--Con.						
	Other a.c. motors (case diameter), including subfractional and fractional synchronous and subsynchronous timing motors, other than clock type--Con.						
	2-1/2" diameter and over but less than 3-3/4" diameter:						
36211 62	Less than 16 mhp	Millions	(NA)	.1	3.7	.4	7.0
36211 63	16 mhp and over but less than 1/20 hp		NA	.7	15.6	.3	3.8
36211 64	1/20 hp and over but less than 1/10 hp		NA				
36211 65	1/10 hp and over but less than 1/4 hp		NA	1.4	27.1	.6	6.6
36211 66	1/4 hp and over		NA				
	3-3/4" diameter and over but less than 4-3/8" diameter:						
36211 67	Less than 16 mhp		NA	.1	4.7	1.3	20.4
36211 68	16 mhp and over but less than 1/20 hp		(NA)				
36211 69	1/20 hp and over but less than 1/10 hp		NA				
36211 70	1/10 hp and over but less than 1/6 hp		NA	1.4	37.1		
36211 71	1/6 hp and over		NA				
	4-3/8" diameter and over but less than 5-3/8" diameter:						
36211 72	Less than 1/20 hp		(NA)	.1	2.0	.1	.6
36211 73	1/20 hp and over but less than 1/10 hp		(NA)			.3	2.9
36211 74	1/10 hp and over but less than 1/6 hp		(NA)	1.3	20.0	.9	11.0
36211 75	1/6 hp and over but less than 1/3 hp		NA	.8	18.1	.3	4.2
36211 76	1/3 hp and over		NA			.3	5.7
36211 81	5-3/8" diameter and over but less than 6" diameter (less than 1 hp)		NA	16.4	319.1	13.3	189.0
36211 83	6" diameter and over but less than 7-1/8" diameter (less than 1 hp)		NA	20.3	426.1	16.6	220.3
36211 85	7-1/8" diameter and over but less than 9" diameter (less than 1 hp)	Millions	NA			.1	9.1
36212 --	Integral horsepower motors and generators, except for land transportation equipment:						
	As reported in Census of Manufactures		53	(X)	1,163.0	(X)	567.7
	As reported in Current Industrial Reports MA-36H, Motors and Generators		NA	4,639.5	1,140.1	X	548.0
	Integral horsepower motors, excluding cranking motors for internal combustion engines, propulsion motors for land transportation, motors mounted on the same shaft as arc welding generators, and hermetics:						
36212 01	Aircraft and space motors, including a.c. and d.c. but excluding generators, all integral hp ratings	Thousands	NA	9.4	5.0	[6]	[6]
	Alternating current:						
	Motors classified by case diameter:						
36121 03	5-3/8" diameter and over but less than 6" diameter (1 hp and over)		NA	1,785.6	56.7	995.1	32.6
36212 05	6" diameter and over but less than 7-1/8" diameter 1 hp and over)		NA				
36212 07	7-1/8" diameter and over but less than 9" diameter 1 hp and over)		NA			29.0	2.2
36212 11	Single phase, all hp ratings		NA	706.5	61.8	231.7	20.6
	Polyphase-induction:						
36212 21	1 to 5 hp		NA	1,337.5	142.4	1,115.6	89.1
36212 22	5.1 to 20 hp		NA	398.9	107.8	382.6	61.2
36212 23	21 to 50 hp		NA	139.4	92.8	123.6	46.5
36212 26	51 to 125 hp		(NA)	54.8	90.6	46.4	41.0
36212 27	126 to 200 hp		NA	18.3	71.5	15.0	34.5
36212 28	201 to 500 hp		(NA)	8.5	75.1	7.1	34.7
36212 29	Over 500 hp		(NA)	4.4	175.7	2.3	57.2
	Synchronous motors (salient pole only):						
36212 31	450 r/min or under (all hp ratings)		NA	.6	43.7	.1	6.7
36212 32	Over 450 r/min (all hp ratings)		NA			.8	5.8
	Direct current motors and generators, excluding all arc welding generators, battery charging generators for internal combustion engines, and generators used as an integral part of land transportation equipment:						
36212 41	1 to 5 hp (3-4/4 kW)		(NA)	36.8	20.9	16.0	6.7
36212 42	5.1 to 20 hp (4.1-15 kW)		(NA)	20.7	31.4	20.0	18.6
36212 43	21 to 50 hp (16-40 kW)		(NA)	6.4	20.5	5.3	10.4
36212 46	51 to 200 hp (41-150 kW)		(NA)	3.1	15.1	3.7	14.2
36212 47	201 to 500 hp (151-400 kW)		(NA)	.6	13.2	1.1	8.4
36212 48	Over 500 hp (over 400 kW)	Thousands	(NA)			[6]5.2	[6]25.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
3621- --	MOTORS AND GENERATORS--Con.						
36212 --	Integral horsepower motors and generators, except for land transportation equipment--Con.						
	As reported in Current Industrial Reports MA-36H, Motors and Generators--Con.						
	Alternating current generators, excluding all arc welding generators, generators used as an integral part of land transportation equipment, steam, gas, and hydraulic turbine driven generators, and aircraft and space generators:						
36212 51	450 r/min and slower speed (all kW ratings)	Thousands	(NA)	-	-	(Z)	1.2
	Over 450 r/min:						
36212 53	3/4 to 5 kW		(NA)	12.4	2.1	7.2	1.5
36212 54	5.1 to 15 kW		(NA)	10.5	8.7	3.8	2.2
36212 55	15.1 to 50 kW		(NA)	10.7	17.4	3.6	3.3
36212 56	50.1 to 150 kW		(NA)	4.4	11.8	2.3	4.0
36212 57	150.1 to 400 kW		(NA)	4.0	19.2	1.4	4.5
36212 59	Over 400 kW	Thousands	(NA)	9.2	56.7	1.0	15.6
36213 --	Land transportation motors, generators, control equipment and parts:						
	As reported in census of manufactures		(NA)	(X)	205.7	(X)	106.3
	As reported in Current Industrial Reports MA-36H, Motors and Generators		(NA)	(X)	198.8	(X)	112.8
36213 11	Railway motors and generators, including those used for control purposes for trolley cars, trolley coaches, rapid transit cars, trolley locomotives, multiple unit cars for railway service, and mining locomotives; and parts and supplies		(NA)	18.3	18.3	(X)	18.7
36213 31	Motors and generators, including those used for control purposes for gasoline-electric and diesel-electric buses, trucks, locomotives, rail cars; and parts and supplies		(NA)				
36213 51	All other land transportation motors, including those used for control purposes for storage battery powered transportation equipment, industrial trucks, mining locomotives, and other transportation equipment; and parts and supplies		(NA)	191.5	122.3	(X)	51.6
36213 98	Other electrical apparatus for land transportation equipment		(NA)	(X)	58.2	(X)	42.5
36214 --	Prime mover generator sets, except steam or hydraulic turbine:						
	As reported in census of manufactures		36	(X)	643.9	(X)	247.3
	As reported in Current Industrial Reports MA-36H, Motors and Generators		(NA)	(X)	649.3	(X)	249.6
	Generator set units, except steam and water turbine sets:						
	Gas and/or gasoline engine driven generator sets:						
	A.c. and d.c. output:						
36214 03	Under 3/4 kW	Thousands	(NA)	211.7	80.5	156.0	53.8
36214 04	3/4 kW to 5 kW		(NA)				
36214 05	5.1 kW to 15 kW		(NA)	41.3	46.5	20.4	19.5
36214 07	15.1 kW to 35 kW		(NA)	5.4	11.1	1.1	2.8
36214 08	35.1 kW to 100 kW		(NA)	1.1	6.3	1.2	4.8
36214 09	100.1 kW and over		(NA)	.2	6.1	.6	7.2
	Diesel engine-driven generator sets:						
	A.c. and d.c. output:						
36214 41	14 kW and under		(NA)	9.3	22.0	4.6	7.9
36214 42	14.1 kW to 50 kW		(NA)	5.5	33.3	2.4	12.4
36214 43	50.1 kW to 100 kW		(NA)	3.3	36.9	2.0	10.7
36214 24	100.1 kW to 200 kW		(NA)	5.0	58.7		
36214 25	200.1 kW to 400 kW		(NA)	5.6	99.8	4.3	63.0
36214 26	400.1 kW to 600 kW		(NA)	1.8	65.8		
36214 27	600.1 kW to 800 kW		(NA)	.5	34.2		
36214 28	800.1 kW to 1,000 kW		(NA)	.5	45.3		
36214 29	1,000.1 kW to 1,999 kW		(NA)	.1	26.5		
36214 30	2,000.1 kW to 3,000 kW		(NA)	.2	[7]76.3	.2	38.3
36214 31	3,000.1 kW and over		(NA)				
	Dual fuel (oil and gas) engine generator sets:						
	A.c. and d.c. output:						
36214 52	Under 2,000 kW		-	[7]	[7]	.1	19.9
36214 53	2,000 kW and over		(NA)				
36214 75	Other generator set units, including wind driven, except steam and water turbine sets and motor generator sets	Thousands	-	-	-	(S)	9.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
3621- --	MOTORS AND GENERATORS--Con.						
36217 --	Fractional horsepower motor-generator sets and other rotating equipment, including hermetic motors:						
	As reported in census of manufactures	.....	34	(X)	274.5	(X)	228.8
	As reported in Current Industrial Reports MA-36H, Motors and Generators	.....	(NA)	(X)	256.8	(X)	(NA)
36217 21	Fractional horsepower, motor-generator sets, a.c. and d.c. output (less than 3/4 kW)	Thousands	(NA)	11.9	2.5	8.5	1.9
	Other rotating equipment:						
36217 53	Synchros, servos, rate generators, resolvers, and combinations, including subfractional (under 1/600 hp) motors	.....	(NA)	(X)	71.7	(X)	41.6
36217 57	Synchro-type components	.....	(NA)	(X)	1.2		
36217 97	Hermetic motors (5.5-inch stator core diameter and smaller)	Thousands	(NA)	15,258.8	158.1	19,200	[8]227.9
36217 98	All other fractional rotating equipment	.....	(NA)	(X)	23.3	(X)	[9]11.8
36218 --	Integral horsepower motor-generator sets and other rotating equipment, including hermetic motors:						
	As reported in census of manufactures	.....	37	(X)	288.1	(X)	122.9
	As reported in Current Industrial Reports MA-36H, Motors and Generators	.....	(NA)	(X)	275.2	(X)	(NA)
36218 11	Synchronous converters and double current generators	Thousands	(NA)	.7	2.0	3.3	2.2
	Integral horsepower motor-generator sets:						
	A.c. output, based on the rating of the largest a.c. generator:						
36218 32	3/4 to 150 kW		(NA)	4.1	22.6	7.1	14.7
	Over 170 kW		(NA)	.2	4.9	.1	4.8
36218 33	D.c. output, based on the rating of the largest d.c. generator:						
36218 34	3/4 to 150 kW		(NA)	4.6	49.6	5.0	22.3
36218 36	Over 170 kW		(NA)				
	Other rotating equipment:						
36218 97	Hermetic motors (over 5.5-inch stator core diameter)	Thousands	(NA)	6,725.7	176.7	([8])	([8])
36218 98	All other integral rotating equipment	.....	(NA)	(X)	19.4	(X)	([9])
36219 --	Parts and supplies for motors, generators, and motor-generator sets, except for land transportation equipment:						
36219 11	Parts and supplies for motors, generators, and motor-generator sets, except for land transportation equipment, excluding motors for built-in jobs	.....	76	(X)	354.0	(X)	188.6
36210 00	Motors and generators, n.s.k., typically for establishments with 10 employees or more	.....	(NA)	(X)	63.4	(X)	30.5
36210 02	Motors and generators, n.s.k., typically for establishments with less than 10 employees	.....	(NA)	(X)	27.3	(X)	5.9

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments (million dollars)	Value of product shipments (million dollars)
	INDUSTRIAL CONTROLS			
3622- --	Total	(NA)	2,429.1	1,245.6
36220 --	General industrial power circuit devices, controls, and parts:			
	As reported in census of manufactures	460	2,342.5	1,226.9
	As reported in Current Industrial Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls	(NA)	2,364.1	1,178.0
	General industrial controls:			
36220 12	A.c. full voltage starters, 600 volts or less, excluding controls for packaged adjustable speed drives and synchronous motor starters	(NA)	244.3	127.4
36220 13	A.c. contactors, 600 volts or less, excluding controls for packaged adjustable speed drives and synchronous motor field controls	(NA)	43.6	31.8
36220 11	A.c. reduced voltage controls, 600 volts or less, excluding synchronous motor starters	(NA)	21.0	44.3
36220 15	Synchronous motor starters, 600 volts or less, including both full and reduced voltage	(NA)	1.1	([10])
36220 16	Motor control centers, 600 volts or less	(NA)	175.9	82.3
36220 18	Starters and contactors for squirrel cage and wound rotor and synchronous motors, over 600 volts, air break and oil immersed	(NA)	53.0	25.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments (million dollars)	Value of product shipments (million dollars)
3622- --	INDUSTRIAL CONTROLS--Con.			
36220 --	General industrial power circiut devices, controls, and parts--Con.			
	As reported in Current Industrials Reports MA-36A, Switchgear, Switchboard Apparatus, Relays, and Industrial Controls--Con.			
	General Industrial controls--Con.			
36220 21	Brakes and clutches	(NA)	63.3	(10)
36220 43	Pilot circuit devices, such as limit switches, interval timers, etc., excluding relays	(NA)	197.9	122.0
36220 44	Pushbuttons and pushbutton stations, excluding operators' desks and stations	(NA)	109.1	48.4
36220 81	Rheostats and resistors, except for electronic applications, sold separately, n.e.c	(NA)	26.7	13.0
	Specific application and specific industrial controls:			
36220 45	Marine and Navy auxiliary controls and accessories	(NA)	65.2	26.4
36220 47	Metal mill	(NA)	63.7	61.8
36220 48	Crane and hoist controls, constant and adjustable voltage, including operators' desks and stations	(NA)	23.1	
36220 49	Definite purpose contactors and starters for refrigeration and air conditioning application	(NA)	30.3	(11)
	Machine tool applications:			
	Controls for numerically controlled machine tools:			
36220 51	Positioning type	(NA)	29.5	38.8
36220 55	Continuous path type	(NA)	98.0	9.3
36220 59	Dial or plugboard type	(NA)	4.3	
36220 65	Machine tool controls other than numerically controlled machines	(NA)	28.3	11.7
36220 75	Other specific or special purpose a.c. and d.c. controllers, other definite purpose devices	(NA)	356.5	11 274.9
36220 96	Controls for packaged adjustable speed drives, including electronic and nonelectronic and operators' desks and stations	(NA)	187.4	78.7
36220 97	All other general industrial controls	(NA)	370.6	10 112.7
36220 99	Renewal parts for industrial control equipment	(NA)	171.3	69.5
36220 02	Industrial controls, n.s.k., typically for establishment with less than 10 employees.	(NA)	86.6	18.7

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	WELDING APPARATUS, ELECTRIC						
3623- --	Total	.....	(X)	(X)	1,035.0	(X)	570.0
36231 --	Arc welding machines, components, and accessories, except electrodes	.....	(NA)	(X)	407.8	(X)	218.5
	Arc welding machines:						
	Alternating current transformer arc welders:						
36231 14	300 amps and under	Thousands.....	11	374.3	64.7	271.2	33.8
36231 16	Over 300 amps		10	(S)	5.6		
	Direct current arc welders:						
36231 31	Generators only		3	11.0	99.3	59.1	36.4
36231 32	Rectifier types, including a.c.-d.c		11				
	Complete units only:						
36231 33	Engine driven		3	67.7	74.4	48.9	48.9
36231 35	Motor driven	Thousands.....	3	13.2	9.7		
	Components and accessories for arc welding apparatus, except electrodes:						
36231 52	Automatic and semiautomatic wire drive apparatus, and related accessories	.....	8	(X)	29.3	(X)	32.6
36231 54	Automatic and semiautomatic welding torches, guns, and cables, and related accessories	.....	9	(X)	29.7		
36231 56	Circuit welding accessories, including electrode holders, ground clamps, cable connectors, cables sold separately, etc.	.....	10	(X)	14.1	(X)	7.9
36231 53	Special purpose automatic welding apparatus	.....	11	(X)	24.9	(X)	16.2
36231 57	Positioning and manipulating equipment, including turn rolls, head and tail stock, weld head manipulators, seamers, moving carriages, etc	.....	9	(X)	17.1	(X)	13.4
36231 59	All other accessories for arc welding machinery, except electrodes and welding rods	.....	18	(X)	35.5	(X)	10.7
36231 00	Arc welding machines, components, and accessories, except electrodes, n.s.k	.....	(NA)	(X)	3.5	(X)	18.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3623- --	WELDING APPARATUS, ELECTRIC--Con.						
36232 --	Arc welding electrodes, metal	.....	(NA)	(X)	447.6	(X)	215.5
	Stick electrodes, straightened and cut lengths, including solid, cored, covered, and bare electrodes:						
36232 14	Mild steel (covered)	Million lb....	14	412.4	133.6	577.0	86.5
36232 16	Mild steel (bare)		(X)	-	-		
36232 23	Low alloy steel, except hard surfacing		8	100.7	44.9	30.9	11.9
36232 25	Stainless steel (chromium 4 percent or more)		10	xx20.7	50.1	15.5	28.7
36232 31	Nonferrous, except hard surfacing		7	xx7.3	24.1	4.1	9.8
36232 41	Hard surfacing, all types, including tool steel		10	(S)	12.2	16.7	10.4
	Coiled and spooled continuous wire electrodes for automatic arc welding and inert gas shielded arc welding, including electrodes for submerged arc welding, bare wire:						
36232 52	Solid wire (mild steel)		6	181.8	91.1	119.0	33.3
36232 53	Solid wire (other than mild steel)		7				
36232 56	Cored wire (shielded)		7	125.0	65.4	102.0	33.6
36232 57	Cored wire (not shielded)	Million lb....	6	58.7	25.3		
36232 00	Arc welding electrodes, metal, n.s.k.	.....	(X)	(X)	.9	(X)	1.3
36233 --	Resistance welders, components, accessories, and electrodes	.....	(NA)	(X)	136.9	(X)	115.1
36233 13	Spot and projection welders--single electrode	Thousands.....	14	(S)	20.5	3.8	14.2
36233 23	Spot and projection welders--multi-electrode		15	(S)	35.5	.9	18.2
36233 31	Seam welders		5	(S)	12.1	.1	7.8
36233 41	Flash, upset, and butt welders		6	(S)	3.2	.8	2.2
36233 51	Other resistance welders		16	(S)	35.6	.5	22.1
36233 61	Resistance welder transformers (sold separately)	Thousands.....	4			(S)	3.3
36233 71	Resistance welder electrodes	Million lb....	6	(X)	10.4	(S)	4.9
36233 81	Resistance welder accessories, including electrode holders, etc	.....	18	(X)	16.9	(X)	31.3
36233 00	Resistance welders, components, accessories, and electrodes, n.s.k.	.....	(NA)	(X)	2.7	(X)	11.1
36230 00	Welding apparatus, electric, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	18.9	(X)	16.5
36230 02	Welding apparatus, electric, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	23.8	(X)	4.4
	CARBON AND GRAPHITE PRODUCTS						
3624- --	Total	.....	(NA)	(X)	663.0	(X)	335.9
36241 --	Carbon and graphite electrodes	.....	(NA)	(X)	362.0	(X)	136.9
	Electrodes for electric furnaces and electrolytic cell use, including paste for self-bake electrodes:						
36241 52	Carbon	Million lb.....	8	478.5	89.0	(X)	33.0
36241 56	Graphite	Million lb.....	5	378.4	272.9	(X)	103.9
36241 00	Carbon and graphite electrodes, n.s.k.	.....	(NA)	(X)	.1	(X)	-
36249 --	Carbon and graphite products, except electrodes	.....	(NA)	(X)	293.1	(X)	193.8
	Brushes, contacts, and brushplates:						
36249 11	Automotive (starter, generator, and alternator) brushes, including replacement brushes (automotive and light truck type--6 to 12 volts, inclusive) and those that are coded, excluding automotive accessory brushes	.....	7	(X)	19.5	(X)	r21.4
36249 13	Other fractional horsepower brushes and contacts, including replacement brushes (brushes 1/4 square inches or under in cross section or 1-1/2 inches long or under, including miniature brushes and automotive accessory brushes)	.....	10	(X)	16.1	(X)	11.6
36249 15	Other industrial brushes and contacts (brushes over 1/4 square inches in cross section and over 1-1/2 inches long)	.....	14	(X)	37.6	(X)	r23.1
36249 17	Brushplates	.....	5	(X)	3.8	(X)	1.0
	All other carbon and graphite products, except electrodes:						
36249 81	For electrical uses, including welding products (rods, plates, paste brazing and soldering tips, illuminating carbons, pile and rheostat resistance discs, plugs, plates and rods, power tube and rectifier parts and plates or rods, spectroscopic products, battery, electronic graphite, telephone components, resistance elements, etc.), excluding silver or other metal contacts	.....	10	(X)	59.4		
36249 83	For mechanical uses, including one-piece seals, bushings and bearings, packing rings for steam seal, rotor vanes, and other uses where there is relative motion between two parts, excluding metallic oilless bearings	.....	19	(X)	49.9	(X)	67.3

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3624- --	CARBON AND GRAPHITE PRODUCTS--Con.						
36249 --	Carbon and graphite products, except electrodes--Con.						
	All other carbon and graphite products, except electrodes--Con.						
36249 86	For aerospace uses, including unmachined stock and machined items, n.e.c.	.....	8	(X)	23.5		
36249 87	For nuclear uses, including unmachined stock and machined parts for use in nuclear reactors and/or in processing nuclear materials, n.e.c.	.....	-	(X)	-	(X)	26.1
36249 89	For all other uses, including chemical, metallurgical, and refractory uses	.....	13	(X)	80.5	(X)	43.3
36249 00	Carbon and graphite products, except electrodes, n.s.k.	.....	(NA)	(X)	2.8	(X)	-
36240 00	Carbon and graphite products, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	3.4	(X)	4.5
36240 02	Carbon and graphite products, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	4.5	(X)	.7
	ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.						
3629- --	Total	.....	(NA)	(X)	699.6	(X)	442.9
36291 --	Capacitors for industrial use, except for electronic applications	.....	(NA)	(X)	154.8	(X)	112.4
36291 11	Shunt and series power capacitors, units and equipment, 1/2 kVA and above, and accessories for power factor correction and other low-frequency a.c. applications	Thousands	7	(S)	64.5	192.7	41.1
	A.c. capacitors, except electrolytic:						
36291 31	General purpose, for motors, controls, etc	Millions	7			22.1	39.0
36291 35	Capacitors for fluorescent lamp ballasts	Millions	3	(S)	89.4		
36291 98	Other capacitors	.....	2			(S)	31.8
36291 00	Capacitors for industrial use, except for electronic applications, n.s.k.	.....	2	(X)	1.0	(X)	.5
36292 --	Rectifying apparatus, except for electronic applications	.....	(NA)	(X)	310.2	(X)	152.6
	Rectifying (power conversion) apparatus, including all apparatus using semiconductors and/or electron tubes as power conversion means:						
	Semiconductor power conversion apparatus:						
	Semiconductor battery chargers:						
36292 21	Automotive	Thousands	17	*1,956.5	49.3	690.6	11.8
36292 25	Industrial and railroad	Thousands	11	**37.5	37.1	85.2	29.9
36292 31	Semiconductor computer supplies	.....	7	(X)	39.5	(X)	13.1
	Semiconductor high-voltage power supplies in excess of 2 kV, excluding separate associated apparatus such as controls, capacitors, switchgear, etc.:						
36292 41	100 kW and below	.....	10	(X)	37.5	(X)	3.0
36292 45	Above 100 kW	.....	4			(X)	3.2
36292 49	All other a.c. to d.c. semiconductor power conversion apparatus	.....	12	(X)	84.2	(X)	49.2
36292 51	Power mercury arc rectifiers	Thousands	2				
36292 98	Other rectifying (power conversion) apparatus	.....	13	(X)	58.3	(X)	30.3
36292 00	Rectifying apparatus, n.s.k.	.....	(NA)	(X)	4.3	(X)	12.1
36293 --	Other electrical equipment for industrial use	.....	(NA)	(X)	182.2	(X)	145.9
	Coil windings, electrical:						
36293 13	Aluminum and aluminum-base alloy	Millions	3	1.7	2.0	3.9	3.0
36293 15	Copper and copper-base alloy	Millions	17	820.4	59.1	45.3	45.6
	Thermic generators:						
36293 23	Thermal electric	Thousands	-	-	-	-	-
36293 25	Electro-chemical generators (fuel cells)	↓	-	-	-	(S)	([12])
36293 31	Solenoids, except solenoid-activated regulating valves	Thousands	7	279.7	15.7	(S)	12.9
36293 98	Other miscellaneous electrical equipment for industrial use, n.e.c.	.....	32	(X)	98.9	(X)	[12]72.9
36293 00	Other electrical equipment for industrial use, n.s.k.	.....	(NA)	(X)	6.5	(X)	11.5
36290 00	Electrical industrial apparatus, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	29.9	(X)	25.5
36290 02	Electrical industrial apparatus, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	22.0	(X)	6.5

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

Footnotes continued on next page.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]In 1977, product codes 36124 61, 36124 65, and 36124 66 were combined to avoid disclosing operations of individual companies.

[4]In 1972, product codes 36125 45, 36125 46, and 36125 95 were combined to avoid disclosing operations of individual companies.

[5]In 1972, product codes 36125 60 and 36125 00 were combined to avoid disclosing operations of individual companies.

[6]In 1972, product codes 36212 01 and 36212 48 were combined to avoid disclosing operations of individual companies

[7]For 1977, product code 36214 53 was combined with product codes 36214 30 and 36214 31 to avoid disclosing operations of individual companies.

[8]For 1972, product code 36218 97 was combined with product code 36217 97 to avoid disclosing operations of individual companies.

[9]For 1972, data were not available separately for product codes 36217 98 and 36218 98.

[10]For 1972, product codes 36220 15 and 36220 21 were included with product code 36220 97.

[11]For 1972, product codes 36220 49 was included with product code 36220 75.

[12]For 1972, product code 36293 25 was included with product code 36293 98 to avoid disclosing operations of individual companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36122, POWER AND DISTRIBUTION TRANSFORMERS, EXCEPT PARTS		
United States	1,320.9	913.9
East North Central Division:		
Illinois	27.5	11.6
Wisconsin	156.5	79.6
West North Central Division:		
Missouri	89.3	62.9
South Atlantic Division:		
Virginia	77.4	FF
East South Central Division:		
Mississippi	51.9	20.2
West South Central Division:		
Texas	21.1	1.7
Pacific Division:		
California	59.2	FF
36124, FLUORESCENT LAMP BALLASTS		
United States	210.7	160.6
East North Central Division:		
Illinois	53.4	GG
36125, SPECIALTY TRANSFORMERS, EXCEPT LAMP BALLASTS		
United States	342.8	225.3
Middle Atlantic Division:		
New Jersey	16.5	BB
East North Central Division:		
Ohio	19.6	FF
Illinois	79.7	GG
Wisconsin	30.9	24.2
South Atlantic Division:		
North Carolina	10.3	BB
Pacific Division:		
California	11.7	CC
36127, OTHER TRANSFORMERS, PARTS FOR ALL TRANSFORMERS		
United States	168.1	111.4
Middle Atlantic Division:		
New York	13.2	2.7
New Jersey	15.4	(NA)
East North Central Division:		
Ohio	17.0	CC
Pacific Division:		
California	10.7	BB
36131, SWITCHGEAR, EXCEPT DUCTS AND CONTROL RELAYS		
United States	841.4	597.1
New England Division:		
Massachusetts	17.8	EE
Connecticut	10.9	31.5
Middle Atlantic Division:		
New York	9.8	11.6
New Jersey	77.8	12.9
Pennsylvania	242.1	233.9
East North Central Division:		
Ohio	30.1	9.2
Indiana	7.7	CC
Illinois	93.1	90.3

Product class and geographic area	Value of product shipments	
	1977	1972
36131, SWITCHGEAR, EXCEPT DUCTS AND CONTROL RELAY--Con.		
West North Central Division:		
Missouri	22.1	EE
South Atlantic Division:		
Georgia	13.7	24.4
West South Central Division:		
Texas	21.5	9.6
Pacific Division:		
California	59.1	30.9
36132, POWER CIRCUIT BREAKERS, ALL VOLTAGES		
United States	261.2	182.7
Middle Atlantic Division:		
Pennsylvania	153.5	GG
East North Central Division:		
Illinois	2.8	2.7
36133, LOW VOLTAGE PANELBOARDS AND DISTRIBUTION BOARDS		
United States	878.2	539.0
New England Division:		
Massachusetts	4.5	4.9
Middle Atlantic Division:		
New York	21.8	27.7
New Jersey	37.6	37.4
Pennsylvania	50.3	42.5
East North Central Division:		
Ohio	49.3	31.6
Illinois	69.0	34.5
Michigan	25.2	17.7
West North Central Division:		
Missouri	28.8	4.4
South Atlantic Division:		
Georgia	86.1	43.7
West South Central Division:		
Texas	54.6	36.4
Mountain Division:		
Colorado	7.1	BB
Pacific Division:		
California	86.9	42.1
36134, FUSES AND FUSE EQUIPMENT UNDER 2300 VOLTS		
United States	201.6	99.7
Middle Atlantic Division:		
New York	10.6	6.7
New Jersey	5.4	BB
36136, DUCTS, INCLUDING PLUG-IN UNITS, 750 VOLTS OR LESS		
United States	88.5	65.7
West South Central Division:		
Texas	2.2	(NA)
36137, RELAYS, CONTROL CIRCUIT		
United States	356.3	223.4
New England Division:		
Connecticut	27.8	EE
Middle Atlantic Division:		
New Jersey	17.1	33.4
East North Central Division:		
Illinois	49.3	24.2
Michigan	6.2	4.2
Wisconsin	60.9	22.0

See footnotes at end of table.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972 - Con

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36137, RELAYS, CONTROL CIRCUIT--Con.		
South Atlantic Division:		
North Carolina	26.9	EE
East South Central Division:		
Kentucky	41.7	FF
Pacific Division:		
California	17.9	EE
36211, FRACTIONAL HORSEPOWER ELECTRIC MOTORS		
United States	1,956.3	1,137.7
New England Division:		
Massachusetts	14.6	CC
Connecticut	32.8	11.3
Middle Atlantic Division:		
Pennsylvania	27.0	EE
East North Central Division:		
Ohio	179.9	165.1
Indiana	256.3	170.1
Illinois	114.9	84.5
Michigan	111.0	84.1
Wisconsin	80.8	37.0
West North Central Division:		
Missouri	182.4	52.8
South Atlantic Division:		
Virginia	35.9	EE
North Carolina	19.5	16.4
East South Central Division:		
Tennessee	106.8	GG
Mississippi	69.3	37.0
West South Central Division:		
Arkansas	246.9	GG
Pacific Division:		
California	18.0	EE
36212, MOTORS AND GENERATORS, INTEGRAL HORSEPOWER		
United States	1,163.0	567.7
Middle Atlantic Division:		
New Jersey	17.6	CC
East North Central Division:		
Ohio	266.1	106.7
Indiana	63.1	FF
Illinois	6.8	(NA)
Wisconsin	131.7	60.1
West South Central Division:		
Arkansas	76.6	24.9
Pacific Division:		
California	55.9	FF
36213, LAND TRANSPORTATION MOTORS AND GENERATORS		
United States	205.7	106.3
East North Central Division:		
Ohio	14.7	(NA)
Pacific Division:		
California	2.2	(NA)
36214, PRIME MOVER GENERATOR SETS		
United States	643.9	247.3
Middle Atlantic Division:		
Pennsylvania	11.1	BB
East North Central Division:		
Ohio	12.1	BB
Wisconsin	58.3	39.5
Pacific Division:		
California	48.1	15.1
36217, MOTOR GENERATOR SETS, FRACTIONAL HORSEPOWER		
United States	274.5	228.8
Middle Atlantic Division:		
Pennsylvania	26.2	6.7
East North Central Division:		
Ohio	67.1	GG
Illinois	11.2	CC
Pacific Division:		
California	27.6	CC
36218, MOTOR GENERATOR SETS, INTEGRAL HORSEPOWER		
United States	288.1	122.9
Middle Atlantic Division:		
New York	14.9	EE
East North Central Division:		
Ohio	38.0	21.4
East South Central Division:		
Tennessee	22.7	(NA)
Pacific Division:		
California	14.8	BB
36219, MOTOR, GENERATOR, AND MOTOR GENERATOR SET PARTS		
United States	354.0	188.6
Middle Atlantic Division:		
New Jersey	4.7	EE
Pennsylvania	41.1	19.5
East North Central Division:		
Indiana	5.4	BB
Illinois	83.8	6.0
Michigan	15.1	CC
Wisconsin	13.1	14.4
Pacific Division:		
California	50.0	FF
36231, ARC WELDING MACHINES, COMPONENTS AND ACCESSORIES		
United States	407.8	218.5
East North Central Division:		
Michigan	23.0	20.5
Pacific Division:		
California	14.0	BB
36232, ARC WELDING ELECTRODES, METAL		
United States	447.6	215.5
Middle Atlantic Division:		
Pennsylvania	91.1	GG

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36232, ARC WELDING ELECTRODES, METAL--Con.		
East North Central Division:		
Ohio	217.7	92.0
36233, RESISTANCE WELDERS, COMPONENTS, ACCESSORIES		
United States	136.9	115.1
East North Central Division:		
Ohio	14.0	18.9
Michigan	82.6	59.5
Pacific Division:		
California	5.3	CC
36241, ELECTRODES, CARBON AND GRAPHITE		
United States	362.0	136.9
Middle Atlantic Division:		
New York	109.7	FF
36249, CARBON AND GRAPHITE PRODUCTS, EXCEPT ELECTRODES		
United States	293.1	193.8
Middle Atlantic Division:		
Pennsylvania	75.3	44.7
East North Central Division:		
Ohio	62.9	FF
Michigan	22.1	EE
Pacific Division:		
California	3.4	(NA)
36291, CAPACITORS FOR ELECTRICAL APPLICATIONS		
United States	154.8	112.4
New England Division:		
Massachusetts	36.1	FF
36291, CAPACITORS FOR ELECTRICAL APPLICATIONS--Con.		
South Atlantic Division:		
South Carolina	18.4	CC
36292, RECTIFYING APPARAUS, EXCEPT ELECTRONIC		
United States	310.2	152.6
Middle Atlantic Division:		
New York	40.9	FF
New Jersey	5.1	4.6
Pennsylvania	25.5	27.1
East North Central Division:		
Ohio	94.5	38.8
Illinois	26.3	19.4
Pacific Division:		
California	48.7	11.1
36293, ELECTRICAL EQUIPMENT FOR INDUSTRIAL USE, N.E.C.		
United States	182.2	145.9
New England Division:		
Connecticut	6.1	12.5
Middle Atlantic Division:		
New York	2.6	5.5
Pennsylvania	46.7	8.4
East North Central Division:		
Ohio	27.3	27.3
Indiana	52.3	25.3
Illinois	7.8	17.7
Pacific Division:		
California	9.0	EE

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies; AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3612-36122	Transformers	2,117.8	1,820.5	1,768.6	2,000.7	1,674.5	1,436.1	1,161.0	692.2
36122	Power and distribution transformers, except parts	1,320.9	1,150.8	1,168.2	1,302.1	1,096.5	913.9	790.3	434.5
36124	Fluorescent lamp ballasts	210.7	194.8	164.5	218.4	173.6	160.6	118.8	93.3
36125	Specialty transformers, except lamp ballasts	342.8	284.3	245.3	270.6	225.5	225.3	116.4	69.7
36127	Other transformers, parts for all transformers	168.1	191.8	197.1	192.6	151.4	111.4	120.6	90.3
36120	Transformers, n.s.k.	75.3	(S)	S	(17.0)	(27.5)	24.9	14.9	4.4
3613-36131	Switchgear and switchboard apparatus	3,298.4	2,622.5	2,508.8	2,520.1	2,349.7	2,058.8	1,598.5	1,088.5
36131	Switchgear, except ducts and control relays	841.4	740.2	748.0	661.3	645.4	597.1	455.7	437.2
36132	Power circuit breakers, all voltages	261.2	230.0	256.4	252.2	217.7	182.7	209.8	208.8
36133	Low voltage panelboards and distribution boards	878.2	738.4	678.4	694.3	630.7	539.0	378.0	304.2
36134	Fuses and fuse equipment under 2300 volts	201.6	151.0	136.5	142.8	127.7	99.7	69.2	41.9
36135	Molded case circuit breakers, 750 volts and below	492.0	387.8	329.0	346.7	320.8	283.0	170.2	(NA)
36136	Ducts, including plug-in units, 750 volts or less	88.5	79.6	78.3	109.9	85.3	65.7	62.8	(NA)
36137	Relays, control circuit	356.3	276.3	251.9	274.5	266.6	223.4	193.7	(NA)
36130	Switchgear and switchboard apparatus, n.s.k.	179.3	(19.2)	(30.3)	(38.4)	55.5	68.2	59.3	16.3
3621-36211	Motors and generators	4,976.2	4,128.9	3,676.8	3,627.8	3,136.6	2,635.7	2,319.0	1,578.2
36211	Fractional horsepower electric motors	1,956.3	1,651.8	1,327.0	1,440.0	1,406.3	1,137.7	842.5	620.3
36212	Motors and generators, integral horsepower	1,163.0	1,092.0	970.7	839.3	681.5	567.7	569.5	380.2
36213	Land transportation motors and generators	205.7	114.2	179.9	150.7	113.8	106.3	133.4	89.8
36214	Prime mover generator sets	643.9	560.3	488.3	361.1	271.1	247.3	232.7	104.6
36217	Motor generator sets, fractional horsepower	274.5	210.5	180.5	254.7	251.8	228.8		
36218	Motor generator sets, integral horsepower	288.1	212.4	168.4	204.8	163.7	122.9		
36219	Motor, generator, and motor generator set parts	354.0	373.3	362.6	358.0	232.1	188.6	158.6	127.6
36210	Motors and generators, n.s.k.	90.7	(S)	S	(19.2)	(16.3)	36.4	36.6	9.4
36220	General industry power circuit devices	2,429.1	2,013.4	1,874.0	1,870.0	1,542.0	1,245.6	1,071.4	633.3
3623-36231	Welding apparatus, electric	1,035.0	870.0	907.7	896.7	663.2	570.0	432.9	324.9
36231	Arc welding machines, components and accessories	407.8	353.7	339.9	391.5	273.9	218.5	140.1	104.5
36232	Arc welding electrodes, metal	447.6	374.3	412.8	359.5	246.3	215.5	166.3	148.2
36233	Resistance welders, components, accessories	136.9	(147.8)	(152.9)	145.1	117.1	115.1	88.0	68.3
36230	Welding apparatus, electric, n.s.k.	42.7	S	(S)	(0.6)	25.9	20.9	37.9	3.8
3624-36241	Carbon and graphite products	663.0	604.0	568.1	544.7	353.2	335.9	295.8	217.8
36241	Electrodes, carbon and graphite	362.0	331.0	311.2	286.5	117.4	136.9	147.6	103.6
36249	Carbon and graphite products except electrodes	293.1	268.6	252.2	252.9	230.3	193.8	140.7	113.0
36240	Carbon and graphite products, n.s.k.	7.9	4.4	4.7	5.3	5.5	5.2	7.5	1.2
3629-36291	Electrical industrial apparatus, n.e.c.	699.6	718.7	637.9	688.8	670.3	442.9	398.5	250.5
36291	Capacitors for electrical applications	154.8	149.0	119.3	157.3	143.1	112.4	112.5	51.4
36292	Rectifying apparatus, except electronic	310.2	(293.3)	(278.0)	241.4	(249.0)	152.6	131.6	86.9
36293	Electrical equipment for industrial use, n.e.c.	182.2	274.5	242.0	278.9	251.8	145.9	135.1	103.7
36290	Electrical industrial apparatus, n.e.c., n.s.k.	51.9	(S)	S	(11.2)	26.4	32.0	19.4	8.5

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3612, TRANSFORMERS					
	Materials, parts, containers, and supplies		(X)	1,018.6	(X)	678.7
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	6.3	2.3	12.2	2.7
331012	Sheet and strip		228.1	87.3	177.1	42.0
331013	Plates		35.1	11.7	68.4	13.0
331015	Structural shapes		6.9	4.0	11.6	3.2
331019	All other carbon steel mill shapes and forms		69.7	61.2	51.7	16.6
331020	Alloy steel, except stainless		165.8	130.2	270.9	119.6
331031	Stainless steel mill shapes and forms	1,000 s. tons	2.0	2.9	2.5	2.2
	Insulated wire and cable, except magnet wire:					
335792	Copper		18.7	18.1	(S)	57.5
335793	Aluminum		(S)	1.4		
335770	Magnet wire	Million lb	*51.7	63.2		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		19.4	18.3	56.2	41.3
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		*9.6	8.6	24.6	14.4
335143	Plate, sheet, and strip, including military cups and discs		*2.8	3.0	4.7	3.7
335152	Pipe and tube		.5	.6	.5	.5
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		29.2	22.6	33.6	13.7
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar powder, welded tubing, etc.)	Million lb	26.6	21.3	23.6	14.1
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons	(S)	2.0	(X)	(2)
290001	Refined petroleum products (gasoline, jet fuel, lubricating oils and greases, asphalt, etc.)		(X)	27.9	(X)	3 20.0
326400	Porcelain, steatite, and other ceramic electrical products		(X)	22.6	(X)	3 23.0
260003	Paper and paperboard products, except paperboard boxes and containers		(X)	25.4	(X)	3 18.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	9.1	(X)	3 10.0
329300	Gaskets (all types) and asbestos packing		(X)	1.9	(X)	3 10.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	9.3	(X)	3 10.0
362001	Electrical capacitors, resistors, rheostats and coil windings		(X)	36.2	(X)	3 54.0
364300	Current-carrying wiring devices		(X)	13.8	(X)	3 33.0
970099	All other materials and components, parts, containers, and supplies		(X)	321.0	(X)	2 141.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	92.7	(X)	15.2
	INDUSTRY 3613, SWITCHGEAR AND SWITCHBOARD APPARATUS					
	Materials, parts, containers, and supplies		(X)	1,202.0	(X)	753.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	9.6	49.7	8.6
331012	Sheet and strip		214.0	77.9	243.5	49.2
331013	Plates		*12.6	4.7	13.1	2.7
331015	Structural shapes		*8.8	3.4	35.5	6.5
331019	All other carbon steel mill shapes and forms		(S)	5.3	(S)	2.2
331020	Alloy steel, except stainless		(S)	2.1	4.5	1.5
	Stainless steel:					
331033	Sheet and strip		(S)	4.7	3.0	3.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons	**.8	2.1	1.4	2.0
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	(S)	7.3	12.6	5 10.8
335793	Aluminum	Mil. lb (aluminum content).	(S)	1.0		
335770	Magnet wire	Million lb	6.2	7.6		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		*7.2	7.4	8.1	9.2
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		40.9	41.7	50.7	41.2
335143	Plate, sheet, and strip, including military cups and discs		17.0	17.9	21.0	17.0
335152	Pipe and tube		(S)	3.2	4.1	3.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*8.6	7.8	14.0	7.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**23.5	18.2	24.1	10.6
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	*1.6	1.9	10.9	5.1
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons	(S)	3.5	3.7	2.4
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	12.5	5.5	5.3
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	11.8	11.2	14.0
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3613, SWITCHGEAR AND SWITCHBOARD APPARATUS--Con.					
	Industrial electrical control equipment (received for incorporation only into other industrial electrical control equipment shipped, as such, by same plant):					
362200	Purchased from other companies		(X)	101.3	(X)	85.5
362209	Received from other plants of the same company		(X)	171.9	(X)	96.4
326400	Porcelain, steatite, and other ceramic electrical products		(X)	27.1	(X)	[3]36.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	32.9	(X)	[3]34.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	21.5	(X)	14.5
333001	Nonferrous metal smelter and refinery shapes, including precious metal	Million lb	(S)	15.3	(X)	[3]21.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	38.3	(X)	[3]29.0
361301	Switches, except snap, toggle and push, and circuit breakers		(X)	55.2	(X)	[3]22.0
362101	Electric motors, generators and parts		(X)	4.7	(X)	[3]7.0
344401	Sheet metal products, except stampings		(X)	4.7	(X)	[3]7.0
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors		(X)	38.4	(X)	[3]13.0
970099	All other materials and components, parts, containers, and supplies		(X)	308.4	(X)	138.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	130.7	(X)	47.9
	INDUSTRY 3621, MOTORS AND GENERATORS					
	Materials, parts, containers, and supplies		(X)	1,796.6	(X)	992.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	*73.2	33.1	58.5	17.3
331012	Sheet and strip		*620.1	249.7	622.7	129.4
331013	Plates		51.8	17.5	50.4	9.6
331017	Wire and wire products		(S)	1.2	(S)	2.6
331019	All other carbon steel mill shapes and forms		*61.4	30.5	45.7	14.2
331020	Alloy steel, except stainless		52.7	24.3	32.9	10.8
	Stainless steel:					
330133	Sheet and strip		**2.8	5.2	.8	1.0
331050	All other stainless steel mill shapes and forms	1,000 s. tons	*2.6	5.5	2.2	2.3
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content)	**21.6	31.0	98.6	[5]80.7
335793	Aluminum	Mil. lb (aluminum content)	*.8	.9	(S)	
335770	Magnet wire	Million lb	**169.0	193.7	(X)	
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		**19.3	20.4	87.2	79.1
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		**18.6	19.3	45.8	30.0
335143	Plate, sheet, and strip, including military cups and discs		*3.9	5.0	3.4	3.3
335152	Pipe and tube		.3	.5	.1	.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		.5	.7	7.2	2.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*5.0	3.9	8.8	3.1
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing)	Million lb	13.9	7.6	12.0	7.7
	Primary metals:					
333122	Copper and copper-base alloy refinery shapes	1,000 s. tons	(S)	.8	5.0	1.8
333401	Aluminum and aluminum-base alloy refinery shapes		**32.5	30.1	21.0	8.5
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		86.2	64.9	119.6	54.5
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	6.9	(S)	7.6
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	*35.9	40.9	21.6	15.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		*2.3	3.3	1.3	1.9
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	**8.0	9.2	3.6	3.1
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands	12.2	31.7	(S)	17.3
	Produced and consumed		(S)	(X)	S)	(X)
351901	Gasoline and other carburetor:					
	Purchased		99.0	14.2	62.8	7.6
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972 – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3621, MOTORS AND GENERATORS--Con.					
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased	Thousands	(S)	27.8	76.8	18.9
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	30.0	(X)	20.0
356201	Roller		(X)	4.0	(X)	1.5
356810	Plain bearings and bushings		(X)	14.7	(X)	(6)
356601	Speed changers, drives, and gears		(X)	7.1	(X)	(6)
346901	Metal stampings	1,000 s. tons	(X)	57.6	(X)	3 30.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	28.2	(X)	3 24.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	22.4	(X)	3 23.0
367408	Semiconductors	Millions	**7.6	4.8	2.9	2.3
333977	Germanium	Thousands lb	-	-	(X)	(6)
362001	Electrical capacitors, resistors, rheostats, and coil windings		(X)	35.7	(X)	(6)
360101	Electrical transmission, distribution, and control equipment		(X)	19.6	(X)	(6)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	8.1	(X)	3 11.0
265001	Paperboard boxes and containers		(X)	21.3	(X)	3 13.0
970099	All other materials and components, parts, containers, and supplies		(X)	452.1	(X)	8 295.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	211.2	(X)	41.4
	INDUSTRY 3622, INDUSTRIAL CONTROLS					
	Materials, parts, containers, and supplies		(X)	869.5	(X)	488.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	5.3	9.1	3.7
331012	Sheet and strip		46.5	19.9	74.8	16.4
331013	Plates		.9	.4	20.0	.4
331015	Structural shapes		(S)	3.2	2.7	.9
331019	All other carbon steel mill shapes and forms		(S)	1.9	6.0	2.0
331020	Alloy steel, except stainless					
	Stainless steel:					
331033	Sheet and strip		*7.1	15.5	3.9	4.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content)	(S)	8.0	12.2	11.7
335793	Aluminum	Mil. lb (aluminum content)	1.0			
335770	Magnet wire	Million lb	**6.7	7.1		
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		(S)	5.3	10.5	11.4
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	8.1	17.8	19.4
335143	Plate, sheet, and strip, including military cups and discs		*6.1	7.2	4.0	3.3
335152	Pipe and tube		.5	.6	.5	.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	2.6	3.0	1.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.		(S)	2.8	.6	.5
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	.4	.5	1.8	1.0
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons	(S)	10.2	3.0	2.8
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	5.0	2.3	2.5
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	1.0	.2	.5
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Industrial electrical control equipment (received for incorporation only into other industrial electrical control equipment shipped, as such, by same plant):					
362200	Purchased from other companies		(X)	64.7	(X)	52.2
362209	Received from other plants of the same company		(X)	86.0	(X)	45.0
326400	Porcelain, steatite, and other ceramic electrical products		(X)	1.[illegible]	(X)	(7)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	5.6	(X)	3 18.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(X)	8.8	17.3	9.5
333001	Nonferrous metal smelter and refinery shapes, including precious metal	Million lb	(X)	12.1	(X)	3 8.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	19.1	(X)	3 12.0
361301	Switches, except snap, toggle and push, and circuit breakers		(X)	11.4	(X)	3 10.0
362101	Electric motors, generators, and parts		(X)	9.3	(X)	3 10.0
344401	Sheet metal products, except stampings		(X)	16.0	(X)	3 22.0
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors		(X)	69.5	(X)	3 31.0
970099	All other materials, parts, containers, and supplies		(X)	303.0	(X)	7 131.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	157.6	(X)	56.9

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3623, WELDING APPARATUS, ELECTRIC					
	Materials, parts, containers, and supplies	.....	(X)	577.5	(X)	283.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	23.6	9.5	33.3	7.0
331012	Sheet and strip		109.3	45.9	74.0	16.9
331015	Structural shapes		11.3	4.5	3.3	.9
331017	Wire and wire products		247.2	80.6	277.7	44.3
331019	All other carbon steel mill shapes and forms		17.7	8.5	10.3	2.6
331020	Alloy steel, except stainless		13.3	8.1	30.6	13.0
	Stainless steel:					
331033	Sheet and strip		23.1	29.2	8.3	13.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	4.1	4.9	9.3	9.1
335793	Aluminum	Mil. lb (aluminum content)			S	
335770	Magnet wire	Million lb.....	303.3	3.3	(X)	[8]
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		1.9	2.8	2.7	2.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		14.4	18.7	5.2	6.2
335143	Plate, sheet, and strip, including military cups and discs		.8	1.0	1.3	1.3
335152	Pipe and tube		1.1	1.8	.8	.9
335008	Aluminum and aluminum-base alloy wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc		7.8	10.0	3.1	1.9
336200	Copper and copper-base alloy castings (rough and semifinished):					
	Purchased		2.9	5.0	3.5	4.5
	Produced	Million lb.....	S	X	(S)	(X)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	311.5	(X)	[8]140.8
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	32.2	(X)	17.2
	INDUSTRY 3624, CARBON GRAPHITE PRODUCTS					
	Materials, parts, containers, and supplies	.....	(X)	217.1	(X)	107.9
	Mill shapes and forms, except castings:					
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	(Z)	.1	(D)	(D)
335793	Aluminum	Mil. lb (aluminum content)	-	-	(D)	
335770	Magnet wire	Million lb.....	-	-	[8]	[8]
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		1.4	2.2	1.1	1.3
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(D)	(D)	.7	.6
335143	Plate, sheet, and strip, including military cups and discs		(S)	1.1	.3	.3
335152	Pipe and tube		(D)	(D)	(Z)	(Z)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	(D)	(D)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(D)	(D)		
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(D)	(D)		
331001	Steel:					
	Purchased	1,000 s. tons..	(D)	(D)	(NA)	[9]
	Produced and consumed	1,000 s. tons..	(NA)	(X)	(S)	[9]
367408	Semiconductors	.....	-	-	(X)	[9]
260001	Paper and paperboard products	.....	(X)	1.5	(X)	[9]
286556	Pitch	.....	(X)	15.5	(X)	[9]
299901	Coke: petroleum coke, metallurgical coke, calcined coke, foundry coke, etc., used as raw material	1,000 s. tons..	340.0	46.7	(X)	[3]15.0
326400	Porcelain, steatite, and other ceramic electrical products	.....	(X)	(D)	(X)	[9]
329508	Natural graphite	1,000 s. tons..	(S)	4.5	(NA)	[9]
360101	Electric transmission, distribution and control equipment	.....	(X)	(D)	(X)	[9]
970099	All other materials and components, parts, containers, and supplies	.....	(X)	131.4	(X)	[8] [9]87.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	7.9	(X)	3.3
	INDUSTRY 3629, ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	263.5	(X)	175.0
	Mill shapes and forms, except castings:					
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	3.3	5.8	(S)	[5]7.4
335793	Aluminum	Mil lb (aluminum content)				

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3629, ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.--Con.					
	Mill shapes and forms, except castings--Con.					
335770	Magnet wire	Million lb	11.4	15.5	[5]	[5]
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		3.4	6.1	6.6	6.8
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		([10])	([10])	([10])	([10])
335143	Plate, sheet, and strip, including military cups and discs		.5	.6	.5	.6
335152	Pipe and tube		[10].9	[10]1.1	[10]6.1	[10]4.7
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		6.0	8.0	4.7	3.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc					
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	10.6	7.0	12.2	4.6
331001	Steel:					
	Purchased	1,000 s. tons	15.6	8.7	([11])	([11])
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
367408	Semiconductors	Millions	19.0	9.1	10.6	6.3
260001	Paper and paperboard products		(X)	23.5	(X)	[3]18.0
286556	Pitch		(X)	([11])	(NA)	([11])
299901	Coke: petroleum coke, metallurgical coke, calcined coke, foundry coke, etc. used as raw material	1,000 s. tons	(NA)	([11])	(NA)	([11])
326400	Porcelain, steatite, and other ceramic electrical products		(X)	14.7	(X)	[3]10.0
329508	Natural graphite	1,000 s. tons	-	-	(NA)	([11])
360101	Electric transmission, distribution, and control equipment		(NA)	([11])	(NA)	([11])
970099	All other materials and components, parts, containers, and supplies		(X)	[11]124.4	(X)	[11]83.2
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	39.0	(X)	30.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material code 333401 was included with material code 970099.

[3]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1972, material code 335770 was included with material codes 335792 and 335793.

[6]For 1972, material codes 356810, 356601, 333977, 362001, and 360101 were included in material code 970099.

[7]For 1972, material code 326400 was included with material code 970099.

[8]For 1972, material code 335770 was included with material code 970099.

[9]For 1972, these material codes were included with material code 970099.

[10]For 1977 and 1972, material code 335102 was included with material code 335152.

[11]For 1977 and 1972, these material codes were included with material code 970099.

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HOUSEHOLD APPLIANCES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3631 Household Cooking Equipment
3632 Household Refrigerators and Freezers
3633 Household Laundry Equipment
3634 Electric Housewares and Fans
3635 Household Vacuum Cleaners
3636 Sewing Machines
3639 Household Appliances, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments in the industry, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contact work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

INDUSTRY 3631, HOUSEHOLD COOKING EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of household cooking equipment, such as stoves, ranges, and ovens. Establishments primarily engaged in the manufacture of household cooking appliances, such as hot plates, grills, percolators, and toasters, are classified in industry 3634. Establishments primarily engaged in the manufacture of commercial cooking equipment are classified in industry 3589.

The total value of shipments for establishments specified in the Household Cooking Equipment industry amounted to $1,707 million in 1977, an increase of 82 percent from 1972. The value of shipments of products classified as primary to the industry was $1,819 million, an increase of 77 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were electric ranges and ovens, for which shipments increased 11 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $784 million in 1977, was 90 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.4 thousand employees, an increase of 9 percent from 1972. The leading States in employment were Tennessee, Illinois, Kentucky, and Ohio, accounting for approximately 55 percent of the industry's 1977 employment. Data for Kentucky and Ohio have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

The 1977 census obtained data on shipments of household cooking equipment only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of household cooking equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36F, Major Household Appliances. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3632, HOUSEHOLD REFRIGERATORS AND FREEZERS

This industry comprises establishments primarily engaged in the manufacture of household refrigerators and freezers. Establishments primarily engaged in the manufacture of commercial and industrial refrigeration equipment, packaged room coolers, and all refrigeration compressor and condenser units are classified in industry 3585, and room dehumidifiers are classified in industry 3634.

The total value of shipments for establishments specified in the Household Refrigerators and Freezers industry amounted to $2,577 million in 1977, an increase of 50 percent from 1972. The value of shipments of products classified as primary to the industry was $2,006 million, an increase of 41 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The product accounting for a significant portion of this change was household refrigerators, for which shipments increased 36 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,166 million in 1977, was 47 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 35.8 thousand employees, an increase of 5 percent from 1972. The leading States in employment were Ohio, Indiana, Illinois, and Kentucky, accounting for approximately 65 percent of the industry's 1977 employment. Data for all States have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

The 1977 census obtained data on shipments of household refrigerators and freezers only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of household refrigerators and freezers are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36F, Major Household Appliances. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3633, HOUSEHOLD LAUNDRY EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of washing machines, dryers, ironers, and wringers for household use. Establishments primarily engaged in the manufacture of commercial laundry equipment are classified in industry 3582.

The total value of shipments for establishments specified in the household laundry equipment industry amounted to $1,793 million in 1977, an increase of 32 percent from 1972. The value of shipments of products classified as primary to the industry was $1,697 million, an increase of 32 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The product accounting for a significant portion of this change was washing machines, for which shipments increased 32 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $845 million in 1977, was 23 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 19.4 thousand employees, a decrease of 18 percent from 1972. The leading States in employment were Ohio, Iowa, Kentucky, and Michigan, accounting for approximately 80 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3634, ELECTRIC HOUSEWARES AND FANS

This industry comprises establishments primarily engaged in the manufacture of electric housewares for heating, cooking, and other purposes; and electric fans including ventilating and exhaust household-type fans. Important products in this industry include electric air heaters, electrically heated bed coverings, blenders, broilers, deep fat fryers, flat irons, food mixers, hot plates, percolators and coffeemakers, roasters, toasters, desk and bracket fans, hassock and floor fans, window-type propeller fans, rollabout fans, and household and kitchen ventilating and exhaust fans. Establishments primarily engaged in the manufacture of industrial and commercial blowers, industrial and commercial exhaust and ventilating fans, and attic fans are classified in industry 3564.

The total value of shipments for establishments specified in the electric housewares and fans industry amounted to $2,531 million in 1977, an increase of 57 percent from 1972. The value of shipments of products classified as primary to the industry was $2,304 million, an increase of 59 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were electric housewares, except fans, for which shipments increased 56 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value addded by manufacture, at $1,366 million in 1977, was 50 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 47.3 thousand employees, a decrease of 8 percent from 1972. The leading States in employment were North Carolina, Wisconsin, Ohio, and Tennessee, accounting for approximately 40 percent of the industry's 1977 employment. Data for Ohio have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

The 1977 census obtained data on shipments of electric houseware and fans only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufacures." Detailed figures on the shipments of electric housewares and fans are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36E, Electric Housewares and Fans. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3635, HOUSEHOLD VACUUM CLEANERS

This industry comprises establishments primarily engaged in the manufacture of household vacuum cleaners. Establishments primarily engaged in the manufacture of commercial vacuum cleaners are classified in industry 3589.

The total value of shipments for establishments specified in the household vacuum cleaners industry amounted to $644 million in 1977, an increase of 38 percent from 1972. The value of shipments of products classified as primary to the industry was $710 million, an increase of 62 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were power units for central vacuum systems, for which shipments increased 1,396 percent. Value added by manufacture, at $380 million in 1977, was 27 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.4 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were Ohio, Illinois, Connecticut, and New Jersey, accounting for approximately 90 percent of the industry's 1977 employment. Data for Illinois, Connecticut, and New Jersey have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3636, SEWING MACHINES

This industry comprises establishments primarily engaged in the manufacture of sewing machines for household and industrial use.

The total value of shipments for establishments specified in the Sewing Machines industry amounted to $306 million in 1977, an increase of 92 percent from 1972. The value of shipments of products classified as primary to the industry was $260 million, an increase of 71 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $210 million in 1977, was 195 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.2 thousand employees, an increase of 55 percent from 1972. The leading States in employment were New Jersey, South Carolina, Illinois, and New York, accounting for approximately 90 percent of the industry's 1977 employment. Data for New Jersey, South Carolina, and Illinois have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3639, HOUSEHOLD APPLIANCES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of household appliances, not elsewhere classified, such as water heaters, dishwashers, and food-waste disposers. Establishments primarily engaged in the manufacture of similar products for commercial and industrial use are classified in industry 3589.

The total value of shipments for establishments specified in the household appliances, n.e.c. industry amounted to $1,184 million in 1977, an increase of 74 percent from 1972. The value of shipments of products classified as primary to the industry was $1,383 million, an increase of 68 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The product accounting for a significant portion of this change was dishwashers, for which shipments increased 50 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $528 million in 1977, was 55 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.7 thousand employees, an increase of 12 percent from 1972. The leading States in employment were Kentucky, Tennessee, Illinois, and Indiana, accounting for approximately 75 percent of the industry's 1977 employment. Data for Illinois and Indiana have been withheld to avoid disclosing operations of individual companies; however, employment size ranges are provided.

The 1977 census obtained data on shipments of household appliances, n.e.c. only at broad product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of household appliances, n.e.c. are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36F, Major Household Appliances. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3631, HOUSEHOLD COOKING EQUIPMENT																
1977 Census--	83	96	58	25.4	289.1	19.1	36.8	197.9	784.1	943.9	1 707.2	36.1	(NA)	303.8	92	80
1976 ASM----	(NA)	(NA)	(NA)	23.1	259.3	17.3	33.3	166.9	693.8	815.4	1 457.3	35.6	339.6	279.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	18.6	196.3	14.0	26.1	127.1	474.7	590.9	1 087.9	20.4	311.0	201.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	22.2	210.2	16.9	31.8	138.9	462.9	577.5	1 045.7	18.2	270.1	209.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	25.2	228.5	19.9	40.0	158.7	484.7	608.3	1 073.8	32.4	266.9	214.1	(NA)	(NA)
1972 Census--	72	82	49	23.3	205.7	18.4	36.8	141.5	412.0	532.1	939.8	25.5	237.4	168.0	91	74
1971 ASM----	(NA)	(NA)	(NA)	21.4	173.7	16.6	33.0	116.1	376.5	409.4	782.9	35.0	202.6	153.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	21.7	159.0	16.9	33.2	107.1	301.0	384.4	681.3	35.1	170.0	148.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	21.6	152.8	16.8	33.1	103.6	310.9	365.7	679.0	11.9	144.8	123.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	21.1	144.9	16.7	33.4	101.0	307.6	331.0	635.5	15.8	140.7	117.9	(NA)	(NA)
1967 Census--	66	73	49	20.4	128.4	16.0	31.3	88.7	254.2	293.6	551.9	8.6	132.2	107.9	92	76
1966 ASM----	(NA)	(NA)	(NA)	20.7	129.9	16.4	32.9	91.8	253.7	305.8	548.5	10.1	(NA)	112.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	20.8	125.2	16.4	33.2	86.6	264.0	297.6	553.6	13.2	(NA)	106.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	19.8	117.8	15.4	30.2	76.9	233.8	265.8	500.0	9.6	96.9	87.2	(NA)	(NA)
1963 Census--	77	83	53	19.2	111.3	15.1	30.4	75.6	230.3	253.5	473.5	8.2	93.5	84.9	87	72
INDUSTRY 3632, HOUSEHOLD REFRIGERATORS AND FREEZERS																
1977 Census--	33	42	25	35.8	468.6	29.8	56.9	358.0	1 166.1	1 447.6	2 576.6	46.9	(NA)	399.1	77	98
1976 ASM----	(NA)	(NA)	(NA)	33.5	393.7	27.0	50.4	285.6	983.1	1 178.6	2 106.5	47.4	512.4	353.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	34.3	379.7	27.6	51.8	279.8	831.1	1 185.2	2 042.5	33.8	452.6	292.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	32.7	333.7	26.7	52.2	252.3	720.3	1 084.0	1 817.9	43.3	321.5	268 9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	35.0	326.0	29.0	56.3	251.0	792.0	997.1	1 784.8	23.6	284.6	277.7	(NA)	(NA)
1972 Census--	30	36	25	34.1	305.3	28.6	55.6	233.0	790.8	944.8	1 719.7	25.5	283.3	280.0	(D)	(NA)
1971 ASM----	(NA)	(NA)	(NA)	32.5	265.7	27.0	51.9	201.5	808.4	810.6	1 594.1	26.2	259.4	246.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	48.8	418.4	40.2	78.7	318.4	849.8	1 074.8	1 923.5	41.5	461.5	311.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	51.1	414.0	42.1	81.8	316.4	923.4	1 118.0	2 036.4	47.8	441.1	318.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	54.8	417.0	45.6	89.5	322.1	915.8	1 158.1	2 075.4	33.0	481.5	341.3	(NA)	(NA)
1967 Census--	31	36	25	53.0	377.8	43.9	84.5	290.2	794.0	1 025.5	1 785.4	37.3	467.6	336.0	59	99
1966 ASM----	(NA)	(NA)	(NA)	53.9	388.2	45.2	88.8	300.6	752.2	965.8	1 674.9	32.1	(NA)	314.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	48.6	344.6	39.9	81.5	265.7	740.9	858.1	1 593.5	40.8	(NA)	255.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	45.8	307.5	37.8	76.3	236.9	680.2	805.5	1 455.0	23.6	365.0	242.7	(NA)	(NA)
1963 Census--	31	34	250	43.1	280.0	35.2	70.0	212.2	631.3	696.1	1 306.5	21.8	351.0	208.6	66	99
INDUSTRY 3633, HOUSEHOLD LAUNDRY EQUIPMENT																
1977 Census--	20	31	24	19.4	262.4	15.9	29.4	202.4	844.7	953.1	1 792.8	27.3	(NA)	170.6	87	90
1976 ASM----	(NA)	(NA)	(NA)	17.7	220.8	14.3	26.3	165.5	711.0	850.3	1 559.4	45.0	420.2	166.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.3	196.4	14.0	25.0	145.7	552.1	756.6	1 340.0	43.0	384.1	160.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	22.6	231.2	18.4	32.6	174.5	642.8	772.2	1 428.1	48.4	382.7	199.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	23.9	242.0	19.7	37.4	186.7	750.7	756.3	1 480.6	32.9	333.8	208.4	(NA)	(NA)
1972 Census--	20	29	24	23.6	223.1	19.4	36.9	171.2	684.7	691.2	1 356.5	31.0	313.3	169.3	88	91
1971 ASM----	(NA)	(NA)	(NA)	21.1	193.9	17.0	33.1	143.6	593.6	591.2	1 191.0	18.6	292.5	151.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	22.1	183.3	17.8	33.6	134.2	504.3	587.2	1 079.5	27.7	285.1	161.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	24.2	183.9	19.8	36.5	137.0	538.1	591.7	1 122.0	30.7	276.9	160 5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	23.5	174.0	19.2	36.8	130.5	500.9	598.7	1 097.1	26.0	254.1	141.5	(NA)	(NA)
1967 Census--	25	35	28	22.2	154.2	17.8	33.7	113.8	408.4	562.3	982.5	31.8	251.3	138.6	87	90
1966 ASM----	(NA)	(NA)	(NA)	23.1	160.1	18.4	36.0	115.5	415.8	556.7	946.9	19.7	(NA)	153.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	21.0	140.2	16.1	32.1	98.1	392.9	482.9	889.2	19.2	(NA)	120.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	20.4	131.8	16.5	32.8	97.8	379.7	466.4	831.8	14.4	191.5	135.1	(NA)	(NA)
1963 Census--	33	39	28	18.3	115.4	14.7	28.8	85.9	353.9	416.0	760.2	9.2	183.6	110.8	89	87
INDUSTRY 3634, ELECTRIC HOUSEWARES AND FANS																
1977 Census--	238	291	148	47.3	458.7	37.6	71.4	305.0	1 365.7	1 169.8	2 531.2	47.8	(NA)	429 5	87	90
1976 ASM----	(NA)	(NA)	(NA)	49.5	438.4	38.5	71.8	291.9	1 088.8	1 088.6	2 151.5	44.4	439 7	433 2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	44.8	384.4	33.8	64.7	240.4	964.4	918.9	1 904.3	47.5	427.8	386.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	53.6	423.8	42.1	80.8	284.3	1 021.4	968.1	1 944.6	54.1	405.5	443 1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	51.0	381.4	40.5	78.9	254.7	970.4	835.5	1 769.8	32.5	353.3	368 5	(NA)	(NA)
1972 Census--	247	299	167	51.3	357.5	41.0	79.4	240.9	919.2	735.6	1 613.3	32 6	345.4	314.1	88	91
1971 ASM----	(NA)	(NA)	(NA)	47.1	303.1	37.7	72.3	202.9	725.3	608.8	1 331.6	27.1	299.5	290.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	49.5	298.8	40.3	77.0	200 3	706.8	596.8	1 275.5	27.9	290.5	298 0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	47.5	276.4	38.4	74.4	184.3	713.6	606.4	1 310.7	26 3	283 6	265 0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	44.2	249.4	35.3	68.6	164.0	623.6	538.0	1 174.3	22 2	208.1	233 9	(NA)	(NA)
1967 Census--	248	290	143	44.6	241.1	35.5	69.1	161.0	590.4	518.5	1 112 0	24.6	204 2	236.2	90	86
1966 ASM----	(NA)	(NA)	(NA)	44.7	236 3	36.6	70.4	161.3	600.2	504.6	1 127.8	25.9	(NA)	237.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	41.3	211.3	33.9	68.4	144 8	574.4	464.0	980 2	26 3	(NA)	187 2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	38.3	190 9	30.3	60.5	128 7	478.4	405.9	889 1	14 7	198 0	150 9	(NA)	(NA)
1963 Census--	286	312	136	38.8	188.3	31.1	59.6	126 9	463.8	394.6	850.3	17.0	187 9	159 8	87	81

See footnotes at end of table

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3635, HOUSEHOLD VACUUM CLEANERS																
1977 Census--	33	36	23	10.4	117.1	7.4	13.0	79.2	380.4	267.5	644.3	16.4	(NA)	85.3	(D)	81
1976 ASM----	(NA)	(NA)	(NA)	10.7	115.0	7.6	14.3	78.7	361.0	257.2	618.1	17.3	164.7	85.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	9.3	98.0	6.4	12.4	64.8	273.3	213.4	509.1	10.5	149.3	78.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	13.4	132.0	9.9	18.4	91.3	354.6	299.0	638.5	19.6	156.4	121.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	13.1	119.5	10.0	18.0	81.6	346.4	240.0	578.9	22.2	143.0	101.9	(NA)	(NA)
1972 Census--	34	36	24	11.2	98.7	8.4	16.3	68.0	299.5	176.2	467.7	9.7	121.6	74.3	80	85
1971 ASM----	(NA)	(NA)	(NA)	9.7	79.7	7.3	14.2	55.0	251.7	135.4	386.8	5.0	106.2	63.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.7	72.6	7.5	14.3	50.6	224.1	126.8	346.1	13.1	104.6	61.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	9.7	67.8	7.3	13.8	47.3	206.8	124.3	332.3	13.2	79.6	67.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	9.2	63.6	7.1	13.5	43.6	195.5	124.5	320.4	9.9	69.7	56.8	(NA)	(NA)
1967 Census--	34	34	17	9.2	58.8	7.1	13.2	39.6	181.4	116.5	293.2	6.5	62.3	56.5	75	84
1966 ASM----	(NA)	(NA)	(NA)	8.2	51.1	6.2	11.9	34.3	156.1	111.2	252.6	4.6	(NA)	49.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	6.4	40.8	4.8	9.1	26.3	131.4	82.3	210.6	6.6	(NA)	32.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.7	35.7	4.1	8.1	22.7	119.7	65.2	184.7	3.9	43.6	28.1	(NA)	(NA)
1963 Census--	34	34	13	5.7	35.5	4.2	8.2	22.7	116.1	65.3	175.4	5.7	39.3	30.1	87	80
INDUSTRY 3636, SEWING MACHINES																
1977 Census--	87	92	25	8.2	107.3	6.1	10.6	67.1	209.5	109.3	305.9	8.1	(NA)	122.4	(D)	(D)
1976 ASM----	(NA)	(NA)	(NA)	7.6	96.1	5.6	10.8	60.6	180.6	86.1	269.4	7.7	115.4	101.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	7.1	82.3	5.0	9.0	46.2	146.9	65.8	211.8	5.2	109.6	104.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	7.5	85.1	5.2	10.5	53.3	171.3	64.3	218.6	9.1	100.9	98.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	7.8	80.1	6.1	11.8	54.5	155.7	62.9	209.6	8.8	96.6	74.5	(NA)	(NA)
1972 Census--	72	75	18	5.3	54.6	4.4	8.6	41.6	124.6	37.0	159.6	9.3	81.0	55.2	(D)	93
1971 ASM----	(NA)	(NA)	(NA)	5.8	51.5	4.5	8.6	36.0	111.3	35.6	143.0	4.4	80.5	55.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	6.3	55.4	4.9	9.5	38.7	100.6	34.7	135.9	6.6	76.5	52.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	6.3	53.8	5.0	10.1	39.4	108.8	39.8	145.6	7.4	68.1	50.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	6.0	45.7	4.6	9.3	33.0	93.1	35.1	134.9	4.1	63.1	45.9	(NA)	(NA)
1967 Census--	83	86	21	6.4	49.3	4.9	9.7	34.7	94.1	31.2	123.6	5.6	70.9	51.2	(D)	96
1966 ASM----	(NA)	(NA)	(NA)	6.1	48.2	4.6	10.8	34.8	97.4	31.9	120.8	3.5	(NA)	45.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	6.7	49.2	4.8	10.4	32.8	88.5	32.1	128.7	2.6	(NA)	40.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	7.6	51.8	5.7	11.5	34.8	74.1	31.4	120.1	2.7	68.9	49.2	(NA)	(NA)
1963 Census--	83	86	17	7.6	52.0	5.8	12.1	36.3	98.3	30.6	117.2	2.6	67.7	63.7	(NA)	96
INDUSTRY 3639, HOUSEHOLD APPLIANCES, N.E.C.																
1977 Census--	65	80	40	15.7	195.3	12.8	25.1	142.9	527.9	667.5	1 184.0	24.6	(NA)	164.2	93	79
1976 ASM----	(NA)	(NA)	(NA)	14.5	175.6	11.5	22.4	120.3	435.2	570.8	999.2	13.0	195.9	132.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	13.3	148.6	10.3	19.8	102.4	358.7	475.5	845.1	15.2	194.0	118.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	16.3	161.6	13.2	25.0	116.5	380.4	489.8	863.9	16.5	185.2	145.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	18.0	168.6	14.5	27.4	121.3	386.0	474.2	851.9	27.2	183.5	130.1	(NA)	(NA)
1972 Census--	70	85	48	14.0	123.5	10.7	20.9	83.4	341.4	363.1	681.9	18.3	160.2	103.6	93	76
1971 ASM----	(NA)	(NA)	(NA)	14.8	123.8	11.2	21.8	82.3	306.7	320.5	632.3	11.4	149.0	91.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	15.8	124.4	12.1	23.9	81.2	282.9	319.7	591.4	13.5	150.8	99.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	13.9	104.3	10.5	20.8	65.8	250.5	278.8	529.0	14.3	133.4	81.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	13.5	97.9	10.3	20.9	65.1	240.4	277.5	517.8	13.2	120.2	81.2	(NA)	(NA)
1967 Census--	71	83	54	13.4	90.9	10.0	20.6	60.1	217.7	265.6	479.9	10.7	112.8	75.5	87	79
1966 ASM----	(NA)	(NA)	(NA)	12.9	84.7	9.9	20.3	57.2	211.7	242.8	448.9	15.6	(NA)	65.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	13.0	85.1	10.1	20.3	58.8	225.0	253.6	475.7	11.7	(NA)	64.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	13.1	84.3	9.9	20.3	57.5	221.5	248.8	466.8	9.0	98.1	61.6	(NA)	(NA)
1963 Census--	102	112	67	13.1	81.6	9.9	19.9	54.3	204.2	233.1	435.5	6.7	93.2	58.1	79	79

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3631, HOUSEHOLD COOKING EQUIPMENT											
1977 Census--	11 374	(NA)	75	1 928	5.37	55	72	(NA)	30 846	36	21.31
1976 ASM----	11 225	14 701	74	1 924	5.01	55	73	23	30 034	37	20.83
1975 ASM----	10 553	16 720	75	1 864	4.86	54	72	28	25 521	41	18.18
1974 ASM----	9 468	12 166	76	1 881	4.36	55	75	25	20 851	45	14.55
1973 ASM----	9 067	10 591	78	2 010	3.96	56	77	24	19 234	47	12.11
1972 Census--	8 828	10 188	78	2 000	3.84	56	78	25	17 682	49	11.19
1971 ASM----	8 116	9 467	77	1 987	3.51	52	74	25	17 593	46	11.40
1970 ASM----	7 327	7 834	77	1 964	3.22	56	79	24	13 870	52	9.06
1969 ASM----	7 074	6 703	77	1 970	3.12	53	76	21	14 393	49	9.39
1968 ASM----	6 867	6 668	79	2 000	3.02	52	74	22	14 578	47	9.20
1967 Census--	6 294	6 480	78	1 956	2.83	53	76	23	12 460	50	8.12
1966 ASM----	6 275	(NA)	79	2 006	2.79	55	79	(NA)	12 256	51	7.71
1965 ASM----	6 019	(NA)	78	2 024	2.60	53	76	(NA)	12 692	47	7.95
1964 ASM----	5 949	4 893	77	1 961	2.54	53	76	19	11 808	50	7.74
1963 Census--	5 796	4 869	78	2 013	2.48	53	77	19	11 994	48	7.57
INDUSTRY 3632, HOUSEHOLD REFRIGERATORS AND FREEZERS											
1977 Census--	13 081	(NA)	83	1 908	6.28	56	74	(NA)	32 548	40	20.48
1976 ASM----	11 752	15 295	80	1 866	5.66	55	74	24	29 346	40	19.50
1975 ASM----	11 069	13 195	80	1 876	5.40	58	76	22	24 230	45	16.04
1974 ASM----	10 204	9 831	81	1 955	4.83	59	77	17	22 027	46	13.79
1973 ASM----	9 314	8 131	82	1 941	4.45	55	74	15	22 628	41	14.06
1972 Census--	8 953	8 307	83	1 944	4.19	54	72	16	23 190	38	14.22
1971 ASM----	8 175	7 981	83	1 922	3.88	50	67	16	24 873	32	15.57
1970 ASM----	8 573	9 457	82	1 957	4.04	55	77	24	17 413	49	10.79
1969 ASM----	8 101	8 632	82	1 942	3.86	54	75	21	18 070	44	11.28
1968 ASM----	7 609	8 786	83	1 962	3.59	55	75	23	16 711	45	10.23
1967 Census--	7 128	8 822	82	1 924	3.43	57	78	26	14 981	47	9.39
1966 ASM----	7 202	(NA)	83	1 964	3.38	57	80	(NA)	13 955	51	8.47
1965 ASM----	7 090	(NA)	82	2 042	3.26	53	75	(NA)	15 244	46	9.09
1964 ASM----	6 713	3 157	82	2 018	3.10	55	76	9	14 851	45	8.91
1963 Census--	6 496	3 229	81	1 988	3.03	53	74	10	14 647	44	9.01
INDUSTRY 3633, HOUSEHOLD LAUNDRY EQUIPMENT											
1977 Census--	13 552	(NA)	82	1 846	6.88	53	67	(NA)	43 631	31	28.72
1976 ASM----	12 474	23 740	80	1 839	6.29	54	68	26	40 169	31	27.03
1975 ASM----	11 352	22 202	80	1 785	5.82	56	71	28	31 913	35	22.08
1974 ASM----	10 230	16 933	81	1 771	5.35	54	70	26	28 442	35	19.71
1973 ASM----	10 125	13 966	82	1 898	4.99	51	67	22	31 410	32	20.07
1972 Census--	9 453	13 275	82	1 902	4.63	50	67	23	29 012	32	18.55
1971 ASM----	9 189	13 862	80	1 947	4.33	49	65	24	28 132	32	17.93
1970 ASM----	8 294	12 900	80	1 887	3.99	54	71	26	22 819	36	15.00
1969 ASM----	7 599	11 442	81	1 843	3.75	52	69	24	22 235	34	14.74
1968 ASM----	7 404	10 812	81	1 916	3.54	54	70	23	21 314	34	13.61
1967 Census--	6 945	11 319	80	1 893	3.37	57	72	25	18 396	37	12.11
1966 ASM----	6 930	(NA)	79	1 956	3.20	58	75	(NA)	18 000	38	11.55
1965 ASM----	6 676	(NA)	76	1 993	3.05	54	70	(NA)	18 709	35	12.23
1964 ASM----	6 460	9 387	80	1 987	2.98	56	71	23	18 612	34	11.57
1963 Census--	6 306	10 032	80	1 959	2.98	54	69	24	19 338	32	12.28
INDUSTRY 3634, ELECTRIC HOUSEWARES AND FANS											
1977 Census--	9 690	(NA)	79	1 896	4.27	46	64	(NA)	28 850	33	19.13
1976 ASM----	8 856	8 882	77	1 864	4.06	50	70	20	21 995	40	15.16
1975 ASM----	8 580	9 549	75	1 914	3.71	48	68	22	21 526	39	14.90
1974 ASM----	7 906	7 565	78	1 919	3.51	49	71	20	19 055	41	12.64
1973 ASM----	7 478	6 927	79	1 948	3.22	47	68	19	19 027	39	12.29
1972 Census--	6 969	6 733	80	1 937	3.03	46	68	21	17 918	39	11.58
1971 ASM----	6 435	6 358	80	1 917	2.80	45	68	22	15 399	41	10 03
1970 ASM----	6 036	5 868	81	1 910	2.60	46	70	22	14 278	42	9.17
1969 ASM----	5 818	5 970	80	1 937	2.47	46	67	21	15 023	38	9.59
1968 ASM----	5 642	4 708	79	1 943	2 39	45	67	17	14 108	39	9.09
1967 Census--	5 405	4 578	79	1 946	2.32	46	68	18	13 237	40	8 54
1966 ASM----	5 286	(NA)	81	1 923	2.29	44	65	(NA)	13 427	39	8 52
1965 ASM----	5 116	(NA)	82	2 017	2.11	47	68	(NA)	13 907	36	8 39
1964 ASM----	4 984	5 169	79	1 996	2.12	45	67	22	12 490	39	7.90
1963 Census--	4 853	4 842	80	1 916	2.12	46	68	21	11 953	40	7.78

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3635, HOUSEHOLD VACUUM CLEANERS										
1977 Census--	11 235	(NA)	70	1 759	6.10	41	59	(NA)	36 488	30	29.31
1976 ASM----	10 747	15 392	71	1 881	5.50	41	60	26	33 738	31	25.24
1975 ASM----	10 537	16 053	68	1 937	5.22	41	61	29	29 387	35	22.04
1974 ASM----	9 850	11 671	73	1 858	4.96	46	67	24	26 462	37	19.27
1973 ASM----	9 122	10 916	76	1 800	4.53	41	62	24	26 442	34	19.24
1972 Census--	8 812	10 857	75	1 940	4.17	37	58	25	26 741	32	18.37
1971 ASM----	8 216	10 948	75	1 945	3.87	35	55	27	25 948	31	17.72
1970 ASM----	7 484	10 783	77	1 906	3.53	36	57	30	23 103	32	15.67
1969 ASM----	6 989	8 206	75	1 890	3.42	37	57	23	21 319	32	14.98
1968 ASM----	6 913	7 576	77	1 901	3.22	38	58	21	21 250	32	14.48
1967 Census--	6 391	6 771	77	1 859	3.00	39	59	21	19 717	32	13.74
1966 ASM----	6 231	(NA)	75	1 919	2.88	44	64	(NA)	19 036	32	13.11
1965 ASM----	6 375	(NA)	75	1 895	2.89	39	58	(NA)	20 531	31	14.43
1964 ASM----	6 263	7 649	71	1 975	2.80	35	54	23	21 000	29	14.77
1963 Census--	6 228	6 894	73	1 952	2.76	37	57	22	20 368	30	14.15
	INDUSTRY 3636, SEWING MACHINES										
1977 Census--	13 045	(NA)	73	1 747	6.31	35	70	(NA)	25 467	51	19.71
1976 ASM----	12 644	15 184	73	1 928	5.61	31	67	42	23 763	53	16.72
1975 ASM----	11 591	15 436	70	1 800	5.13	31	69	51	20 690	56	16.32
1974 ASM----	11 346	13 453	69	2 019	5.07	29	68	46	22 840	49	16.31
1973 ASM----	10 269	12 384	78	1 934	4.61	30	68	46	19 961	51	13.19
1972 Census--	10 301	15 283	83	1 954	4.83	23	57	50	23 509	43	14.48
1971 ASM----	8 879	13 879	77	1 911	4.18	24	60	56	19 189	46	12.94
1970 ASM----	8 793	12 142	77	1 938	4.07	25	66	56	15 968	55	10.58
1969 ASM----	8 539	10 809	79	2 020	3.90	27	64	46	17 269	49	10.77
1968 ASM----	7 616	10 516	76	2 021	3.54	26	59	46	15 516	49	10.01
1967 Census--	7 703	11 078	76	1 979	3.57	25	65	57	14 703	52	9.70
1966 ASM----	7 901	(NA)	75	2 347	3.22	26	66	(NA)	15 967	49	9.01
1965 ASM----	7 343	(NA)	71	2 166	3.15	24	63	(NA)	13 208	55	8.50
1964 ASM----	6 815	9 065	75	2 017	3.02	26	69	57	9 750	69	6.44
1963 Census--	6 842	8 907	76	2 086	3.00	26	70	57	12 934	52	8.12
	INDUSTRY 3639, HOUSEHOLD APPLIANCES, N.E.C.										
1977 Census--	12 404	(NA)	81	1 953	5.69	56	72	(NA)	33 532	36	21.04
1976 ASM----	12 110	13 510	79	1 947	5.37	57	74	19	30 013	40	19.42
1975 ASM----	11 172	14 586	77	1 922	5.17	56	73	22	26 969	41	18.11
1974 ASM----	9 914	11 361	80	1 893	4.66	56	75	21	23 337	42	15.21
1973 ASM----	9 366	10 194	80	1 889	4.42	55	75	21	21 444	43	14.08
1972 Census--	8 821	11 442	76	1 953	3.99	53	71	23	24 385	36	16.33
1971 ASM----	8 364	10 067	75	1 946	3.77	50	70	23	20 722	40	14.06
1970 ASM----	7 873	9 544	76	1 975	3.39	54	75	25	17 905	43	11.83
1969 ASM----	7 503	9 597	75	1 980	3.16	52	72	25	18 021	41	12.04
1968 ASM----	7 251	8 903	76	2 029	3.11	53	72	23	17 807	40	11.50
1967 Census--	6 783	8 417	74	2 060	2.91	55	74	23	16 246	41	10.56
1966 ASM----	6 565	(NA)	76	2 050	2.81	54	72	(NA)	16 410	40	10.42
1965 ASM----	6 546	(NA)	77	2 009	2.89	53	71	(NA)	17 307	37	11.08
1964 ASM----	6 435	7 488	75	2 010	2.88	53	71	21	16 908	38	11.13
1963 Census--	6 229	7 114	75	2 010	2.72	53	72	21	15 587	39	10.26

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3631, HOUSEHOLD COOKING EQUIPMENT														
United States	-	**96**	**58**	**25.4**	**289.1**	**19.1**	**36.8**	**197.9**	**784.1**	**943.9**	**1 707.2**	**36.1**	**23.3**	**412.0**
Middle Atlantic Division:														
New York	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	4	2	0.3	2.8	0.2	0.3	2.1	6.5	6.7	13.1	0.2	(NA)	(D)
Pennsylvania	-	4	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	12	9	3.5	42.8	2.7	5.1	32.0	84.7	133.0	213.7	2.7	4.8	74.7
Michigan	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	14	13	5.1	53.6	3.8	7.3	33.2	107.7	197.5	309.0	7.5	(NA)	(D)
Alabama	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	E3	9	2	0.2	1.5	0.1	0.2	0.9	5.2	5.4	10.4	0.4	(NA)	(D)
Pacific Division:														
California	-	10	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3632, HOUSEHOLD REFRIGERATORS AND FREEZERS														
United States	-	**42**	**25**	**35.8**	**468.6**	**29.8**	**56.9**	**358.0**	**1 166.1**	**1 447.6**	**2 576.6**	**46.9**	**34.1**	**790.8**
East North Central Division:														
Ohio	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	5	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	4	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
South Carolina	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	2	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3633, HOUSEHOLD LAUNDRY EQUIPMENT														
United States	-	**31**	**24**	**19.4**	**262.4**	**15.9**	**29.4**	**202.4**	**844.7**	**953.1**	**1 792.8**	**27.3**	**23.6**	**684.7**
East North Central Division:														
Ohio	-	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	4	4	1.8	19.1	1.4	2.5	14.6	33.8	56.4	85.4	1.5	(NA)	(D)
Michigan	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Iowa	-	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3634, ELECTRIC HOUSEWARES AND FANS														
United States	-	**291**	**148**	**47.3**	**458.7**	**37.6**	**71.4**	**305.0**	**1 365.7**	**1 169.8**	**2 531.2**	**47.8**	**51.3**	**919.2**
New England Division:														
Massachusetts	E1	9	3	0.6	3.6	0.5	0.8	2.1	6.7	4.5	11.2	(D)	0.9	13.3
Connecticut	-	9	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	29	10	2.3	21.4	2.1	3.8	16.7	60.7	47.8	108.5	2.7	3.7	64.6
New Jersey	-	18	9	1.3	13.4	1.1	2.3	10.5	26.1	21.2	47.1	0.8	(NA)	(D)
Pennsylvania	-	11	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	17	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.6	61.6
Indiana	-	9	5	0.7	5.9	0.5	1.0	3.7	14.4	14.7	29.1	0.6	0.7	10.0
Illinois	-	23	7	3.8	49.2	2.7	5.1	29.8	89.8	79.9	167.3	(D)	5.3	88.7
Michigan	-	10	3	0.4	3.2	0.3	0.5	2.5	6.4	7.8	14.1	0.2	0.4	5.6
Wisconsin	-	9	8	4.5	54.8	2.6	5.0	27.1	129.9	119.0	242.1	3.8	4.2	72.6
West North Central Division:														
Minnesota	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Iowa	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	16	12	3.2	24.1	2.7	5.2	19.3	93.3	78.2	179.2	2.7	(NA)	(D)
Kansas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	E1	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	9	7	5.2	44.9	4.6	8.7	35.5	175.7	136.2	309.8	(D)	(NA)	(D)
South Carolina	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	12	11	4.0	30.7	3.4	6.3	21.2	97.4	93.0	193.3	4.9	(NA)	(D)
Alabama	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	13	10	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	9	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	6.7
Mountain Division:														
New Mexico	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	8	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	27	12	1.6	19.4	1.4	2.5	14.7	48.6	30.9	80.3	1.1	(NA)	(D)
INDUSTRY 3635, HOUSEHOLD VACUUM CLEANERS														
United States	-	**36**	**23**	**10.4**	**117.1**	**7.4**	**13.0**	**79.2**	**380.4**	**267.5**	**644.3**	**16.4**	**11.2**	**299.5**
New England Division:														
Connecticut	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New Jersey	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	7	6	4.9	59.0	3.8	6.3	41.4	172.6	102.6	279.9	(D)	(NA)	(D)
Illinois	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 3636, SEWING MACHINES														
United States	-	**92**	**25**	**8.2**	**107.3**	**6.1**	**10.6**	**67.1**	**209.5**	**109.3**	**305.9**	**8.1**	**5.3**	**124.6**
New England Division:														
Maine	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	7	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E3	37	12	0.6	7.9	0.4	0.9	5.0	15.6	11.1	26.3	0.5	(NA)	(D)
New Jersey	-	7	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Illinois	-	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
South Carolina	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3639, HOUSEHOLD APPLIANCES, N.E.C.														
United States	-	**80**	**40**	**15.7**	**195.3**	**12.8**	**25.1**	**142.9**	**527.9**	**667.5**	**1 184.0**	**24.6**	**14.0**	**341.4**
East North Central Division:														
Ohio	-	6	3	0.3	3.1	0.2	0.3	1.8	9.6	14.0	23.0	0.3	(NA)	(D)
Indiana	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	5	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	6	4	1.4	18.4	1.1	2.0	12.3	58.0	48.6	106.2	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	4	4	3.8	47.6	3.2	5.9	35.3	136.9	153.1	284.6	7.1	(NA)	(D)
Tennessee	-	7	6	3.1	31.4	2.5	5.3	21.3	79.9	103.4	182.3	(D)	(NA)	(D)
Alabama	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Utah	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nevada	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	13	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Household cooking equipment (SIC 3631)	Household refrigerators and freezers (SIC 3632)	Household laundry equipment (SIC 3633)	Electric housewares and fans (SIC 3634)	Household vacuum cleaners (SIC 3635)	Sewing machines (SIC 3636)	Household appliances, n.e.c (SIC 3639)
Primary product specialization ratio[1]	percent	92	77	87	87	(D)	(D)	93
Coverage ratio[2]	do	80	98	90	90	81	(D)	79
All establishments	number	96	42	31	291	36	92	80
With 1 to 19 employees	do	38	17	7	143	13	67	40
With 20 to 99 employees	do	14	4	8	48	13	17	15
With 100 employees or more	do	44	21	16	100	10	8	25
All employees, average for year	1,000	25.4	35.8	19.4	47.3	10.4	8.2	15.7
Payroll for year, all employees	mil. dol.	289.1	468.6	262.4	458.7	117.1	107.3	195.3
Production workers:								
Average for year	1,000	19.1	29.8	15.9	37.6	7.4	6.1	12.8
March	do	18.9	30.2	15.3	35.2	7.2	5.8	12.2
May	do	19.1	31.1	16.6	36.4	7.3	6.1	12.6
August	do	18.6	28.7	16.2	38.1	7.5	6.2	13.2
November	do	19.7	29.3	15.6	40.8	7.6	6.2	13.3
Hours	millions	36.8	56.9	29.4	71.4	13.0	10.6	25.1
January to March	do	8.8	13.6	7.1	16.4	3.1	2.7	6.0
April to June	do	9.6	15.8	8.1	17.7	3.4	2.8	6.7
July to September	do	8.6	14.1	6.9	17.4	3.2	2.5	6.1
October to December	do	9.8	13.4	7.3	19.8	3.3	2.7	6.4
Wages	mil. dol.	197.9	358.0	202.4	305.0	79.2	67.1	142.9
Cost of materials, etc.	do	943.9	1 447.6	953.1	1 169.8	267.5	109.3	667.5
Materials, parts, containers, etc., consumed	do	840.6	1 387.0	913.1	1 069.1	250.1	91.0	640.2
Resales	do	80.4	25.6	14.9	67.5	(D)	(D)	9.7
Fuels consumed	do	9.5	17.3	11.0	8.6	1.9	1.6	9.7
Purchased electric energy	do	9.8	15.3	12.6	16.3	3.8	2.9	6.0
Contract work	do	3.6	2.5	1.4	8.3	(D)	(D)	1.8
Value of shipments, including resales	do	1 707.2	2 576.6	1 792.8	2 531.2	644.3	305.9	1 184.0
Value of resales	do	111.1	33.5	16.2	91.9	(D)	(D)	12.0
Value added by manufacture	do	784.1	1 166.1	844.7	1 365.7	380.4	209.5	527.9
Manufacturers' inventories:								
Beginning of year	do	283.7	352.1	162.1	409.2	81.5	103.7	132.6
Finished products	do	132.0	229.9	80.2	166.5	38.8	42.5	46.9
Work in process	do	45.0	67.7	33.5	91.4	25.1	49.8	22.2
Materials, supplies, fuel, etc.	do	106.7	54.5	48.5	151.3	17.6	11.4	63.6
End of year	do	303.8	399.1	170.6	429.5	85.3	122.4	164.2
Finished products	do	151.0	254.1	83.2	173.4	37.9	54.9	53.9
Work in process	do	46.8	80.6	35.5	88.9	29.5	50.3	26.5
Materials, supplies, fuel, etc.	do	105.9	64.4	51.9	167.2	17.9	17.1	83.8
Capital expenditures for plant and equipment	do	40.9	49.0	27.4	59.1	17.6	10.3	50.6
New capital expenditures	do	36.1	46.9	27.3	47.8	16.4	8.1	24.6
New buildings and other structures	do	8.9	10.7	7.6	8.3	0.8	0.8	5.4
New machinery and equipment	do	27.1	36.2	19.7	39.5	15.7	7.3	19.2
Used capital expenditures	do	4.8	2.1	0.1	11.3	1.2	2.2	26.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Household cooking equipment (SIC 3631)		Household refrigerators and freezers (SIC 3632)		Household laundry equipment (SIC 3633)		Electric housewares and fans (SIC 3634)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	1.3	3	3.8	4	2.3	1	3.3	6
Response coverage ratio[2] (percent)	56	(X)	99	(X)	86	(X)	72	(X)
Machinery	6.4	2	9.6	1	4.9	3	12.9	3
Response coverage ratio[2] (percent)	48	(X)	99	(X)	86	(X)	72	(X)
Cost of purchased communication services	3.5	3	2.4	10	1.2	1	5.0	10
Response coverage ratio[2] (percent)	47	(X)	99	(X)	87	(X)	81	(X)
Rental payments	7.2	3	9.3	1	1.4	3	11.1	4
Buildings and other structures	2.0	5	3.5	1	0.4	9	5.8	6
Machinery and equipment	5.2	3	5.8	1	1.0	2	5.2	4
Supplemental labor costs	66.4	1	129.0	1	63.3	1	79.4	2
Legal costs	25.1	2	39.5	1	22.0	1	39.9	2
Voluntary costs	41.3	1	89.4	1	41.3	1	39.5	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	132.4	2	173.5	2	150.2	1	144.1	3
New capital expenditures	8.6	3	10.3	3	7.2	1	(9.3)	15
Used capital expenditures	2.2	1	0.7	1	-	(X)	2.5	1
Retirements	0.6	12	1.5	2	16.5	1	(7.4)	27
End of year	142.6	2	183.1	2	140.8	1	148.5	2
Machinery and equipment:								
Beginning of year	198.8	3	345.1	1	261.2	1	312.8	2
New capital expenditures	27.1	2	36.4	2	19.6	1	42.9	9
Automobiles, trucks, etc., for highway use[3]	(0.6)	(A)	(D)	(A)	(D)	(A)	(0.5)	(A)
Computers and peripheral data processing equipment[3]	(0.1)	(A)	(D)	(A)	(D)	(A)	(0.7)	(A)
All other[3]	(24.6)	81	(D)	62	(16.3)	(A)	(32.5)	62
New machinery and equipment, n.s.k.[4]	(1.8)	(A)	(1.1)	(A)	(2.5)	(A)	(9.2)	(A)
Used capital expenditures	2.6	1	1.3	1	(0.1)	51	8.1	3
Retirements	10.2	3	15.3	1	15.8	1	34.2	4
End of year	218.3	2	367.4	1	265.2	1	329.5	1
Total gross value of depreciable assets:								
Beginning of year	331.2	2	518.6	1	411.4	1	456.9	2
New capital expenditures	35.7	2	46.7	2	26.8	1	52.2	8
Used capital expenditures	4.8	1	1.9	1	(0.1)	51	10.6	3
Retirements	10.8	3	16.8	1	32.3	1	41.6	8
End of year	360.9	2	550.4	1	406.0	1	478.0	1
Depreciation charges during 1977	22.8	3	44.7	1	23.2	1	33.7	51
Buildings and other structures	5.7	2	11.4	1	4.9	1	5.6	6
Machinery and equipment	17.1	3	33.3	1	18.3	1	28.2	4

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Household vacuum cleaners (SIC 3635)		Sewing machines (SIC 3636)		Household appliances, n.e.c. (SIC 3639)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	0.9	1	0.3	6	1.1	4
Response coverage ratio[2] (percent)	83	(X)	70	(X)	51	(X)
Machinery	3.2	1	2.3	10	5.0	1
Response coverage ratio[2] (percent)	78	(X)	89	(X)	69	(X)
Cost of purchased communication services	0.9	9	(1.5)	23	2.2	5
Response coverage ratio[2] (percent)	80	(X)	86	(X)	63	(X)
Rental payments	3.7	2	2.8	13	5.1	3
Buildings and other structures	0.9	11	(1.1)	34	1.4	5
Machinery and equipment	2.8	5	1.7	8	3.7	5
Supplemental labor costs	27.4	2	27.9	5	40.5	1
Legal costs	10.4	2	8.5	1	15.8	1
Voluntary costs	17.0	2	19.4	7	24.7	1
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	47.9	4	27.1	7	66.6	3
New capital expenditures	(0.6)	30	(0.6)	57	6.2	14
Used capital expenditures	0.2	1	-	(X)	16.2	1
Retirements	0.1	45	(0.1)	50	0.5	9
End of year	48.6	4	27.6	7	88.5	2
Machinery and equipment:						
Beginning of year	96.3	4	85.0	7	126.7	3
New capital expenditures	15.4	3	(6.6)	16	21.3	7
Automobiles, trucks, etc., for highway use[3]	(D)	33	(0.1)	(A)	(0.3)	(A)
Computers and peripheral data processing equipment[3]	(Z)	(A)	(Z)	(A)	(0.2)	(A)
All other[3]	(D)	16	(6.5)	(A)	(18.2)	(A)
New machinery and equipment, n.s.k.[4]	(0.3)	(A)	(Z)	(A)	(2.6)	(A)
Used capital expenditures	0.9	1	1.8	2	9.8	1
Retirements	6.5	4	3.1	12	(9.2)	18
End of year	106.2	4	90.3	7	148.5	2
Total gross value of depreciable assets:						
Beginning of year	144.2	4	112.1	7	193.4	3
New capital expenditures	16.0	4	(7.2)	19	27.4	8
Used capital expenditures	1.2	1	1.8	2	26.0	1
Retirements	6.6	5	3.2	10	(9.7)	17
End of year	154.8	4	117.9	7	237.1	2
Depreciation charges during 1977	11.1	3	8.0	5	16.7	2
Buildings and other structures	1.8	4	0.8	8	3.8	3
Machinery and equipment	9.3	4	7.1	6	12.8	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

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Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3631, HOUSEHOLD COOKING EQUIPMENT												
Total	-	96	25.4	289.1	19.1	36.8	197.9	784.1	943.9	1 707.2	36.1	303.8
Establishments with an average of—												
1 to 4 employees	E8	16	(Z)	0.2	(Z)	(Z)	0.2	0.5	0.7	1.2	(Z)	0.2
5 to 9 employees	E8	7	(Z)	0.5	(Z)	0.1	0.3	1.2	1.6	2.8	(Z)	0.5
10 to 19 employees	E5	15	0.2	2.4	0.2	0.3	1.5	5.6	7.4	12.8	(1.0)	2.1
20 to 49 employees	-	9	0.3	2.9	0.2	0.4	1.9	6.2	8.3	15.4	(D)	3.0
50 to 99 employees	-	5	0.4	3.2	0.3	0.6	2.5	6.0	10.1	19.1	(D)	3.4
100 to 249 employees	-	15	2.6	24.5	2.1	3.8	17.6	67.3	81.1	148.8	2.4	27.6
250 to 499 employees	-	12	4.5	45.7	3.5	6.8	32.1	101.2	151.3	248.5	8.8	60.7
500 to 999 employees	-	8	4.7	49.3	3.4	6.4	33.0	217.0	193.9	406.1	9.2	59.7
1,000 to 2,499 employees	-	9	12.8	160.3	9.4	18.3	108.9	379.0	489.7	852.4	14.6	146.5
Covered by administrative records[2]	E0	28	0.2	2.2	0.2	0.3	1.5	4.5	5.8	10.3	0.2	2.0
INDUSTRY 3632, HOUSEHOLD REFRIGERATORS AND FREEZERS												
Total	-	42	35.8	468.6	29.8	56.9	358.0	1 166.1	1 447.6	2 576.6	46.9	399.1
Establishments with an average of—												
1 to 4 employees	E0	13	(Z)	(0.4)	(Z)	(Z)	(0.3)	(0.7)	(1.0)	1.8	(0.3)	(0.3)
5 to 9 employees	E0	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	-	3	(Z)	0.5	(Z)	0.1	0.4	1.4	1.1	2.4	(D)	0.5
20 to 49 employees	-	3	(0.2)	(1.7)	(0.2)	(0.2)	(1.1)	(3.0)	(5.6)	(9.0)	(6.9)	(1.9)
50 to 99 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	8	(2.7)	(26.2)	(2.2)	(3.9)	(18.8)	(61.0)	(97.7)	(152.0)	(D)	(32.9)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	5	7.5	95.5	6.3	12.3	73.0	271.0	313.7	576.1	9.0	55.0
2,500 employees or more	-	6	25.3	344.3	21.1	40.4	264.5	828.8	1 028.5	1 835.2	30.7	308.5
Covered by administrative records[2]	E0	13	(Z)	0.4	(Z)	(Z)	0.3	0.8	1.0	1.8	(Z)	0.3
INDUSTRY 3633, HOUSEHOLD LAUNDRY EQUIPMENT												
Total	-	31	19.4	262.4	15.9	29.4	202.4	844.7	953.1	1 792.8	27.3	170.6
Establishments with an average of—												
1 to 4 employees	E3	3	(Z)	(0.4)	(Z)	(0.1)	(0.3)	(0.8)	(1.1)	(2.0)	(0.4)	(0.2)
5 to 9 employees	E6	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
10 to 19 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	E1	5	0.2	2.0	0.1	0.2	1.3	5.8	8.0	13.8	(D)	1.7
50 to 99 employees	-	3	0.2	2.5	0.2	0.3	1.8	5.9	9.5	15.4	0.3	2.0
100 to 249 employees	-	4	0.4	4.7	0.4	0.7	3.9	9.7	16.5	25.4	1.1	2.4
250 to 499 employees	-	3	1.1	12.0	0.9	1.7	9.4	29.1	46.9	75.4	3.2	9.9
500 to 999 employees	-	1	(9.2)	(123.9)	(7.4)	(13.6)	(94.3)	(364.5)	(426.2)	(781.9)	(8.7)	(88.6)
1,000 to 2,499 employees	-	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	3	8.2	116.9	6.9	12.8	91.4	428.9	445.0	878.8	13.9	65.8
Covered by administrative records[2]	E0	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3634, ELECTRIC HOUSEWARES AND FANS												
Total	-	291	47.3	458.7	37.6	71.4	305.0	1 365.7	1 169.8	2 531.2	47.8	429.5
Establishments with an average of—												
1 to 4 employees	E8	84	0.1	1.1	0.1	0.2	0.8	2.9	2.7	5.6	0.1	1.0
5 to 9 employees	E7	32	0.2	2.0	0.2	0.3	1.3	4.8	4.6	9.4	0.2	1.8
10 to 19 employees	E6	27	0.4	3.0	0.3	0.5	2.0	7.0	6.0	12.7	0.3	2.3
20 to 49 employees	E1	32	1.0	9.3	0.8	1.5	5.8	30.3	25.7	54.9	1.0	8.0
50 to 99 employees	E1	16	1.1	9.8	0.9	1.8	6.1	25.2	27.8	52.8	0.9	9.6
100 to 249 employees	-	39	6.4	55.2	5.2	10.0	37.6	145.7	165.9	316.5	5.8	60.5
250 to 499 employees	-	34	12.8	102.3	10.9	19.9	76.1	315.1	362.2	681.9	17.9	110.9
500 to 999 employees	-	20	13.8	122.4	11.6	22.5	87.2	461.6	357.7	810.3	12.2	122.0
1,000 to 2,499 employees	-	6	(11.5)	(153.7)	(7.7)	(14.6)	(88.2)	(373.2)	(217.1)	(587.1)	(9.6)	(113.4)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	108	0.6	5.2	0.5	0.9	3.4	12.0	11.5	23.6	0.5	4.3
INDUSTRY 3635, HOUSEHOLD VACUUM CLEANERS												
Total	-	36	10.4	117.1	7.4	13.0	79.2	380.4	267.5	644.3	16.4	85.3
Establishments with an average of—												
1 to 4 employees	E0	9	(Z)	0.2	(Z)	(Z)	0.2	0.7	0.5	1.1	(0.2)	0.2
5 to 9 employees	E6	2	(Z)	(0.4)	(Z)	(0.1)	(0.3)	(1.1)	(0.7)	(1.8)	(Z)	(0.2)
10 to 19 employees	E4	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	10	0.3	2.9	0.2	0.3	1.6	6.9	7.5	14.4	(16.2)	2.2
50 to 99 employees	-	3	(0.5)	(5.3)	(0.3)	(0.6)	(2.7)	(17.0)	(28.9)	(46.3)	(D)	(6.5)
100 to 249 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	4	1.5	16.8	1.3	2.6	13.6	63.6	56.9	118.7	(D)	13.0
500 to 999 employees	-	2	(8.1)	(91.5)	(5.5)	(9.4)	(60.9)	(291.1)	(173.0)	(462.0)	(D)	(63.2)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	11	(Z)	0.4	(Z)	0.1	0.3	1.3	0.9	2.1	(Z)	0.3

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3636, SEWING MACHINES												
Total	-	**92**	**8.2**	**107.3**	**6.1**	**10.6**	**67.1**	**209.5**	**109.3**	**305.9**	**8.1**	**122.4**
Establishments with an average of—												
1 to 4 employees	E9	39	0.1	0.8	0.1	0.1	0.5	1.5	0.7	2.2	0.1	0.8
5 to 9 employees	E5	13	0.1	1.1	0.1	0.1	0.7	2.3	1.1	3.3	0.1	1.3
10 to 19 employees	E6	15	0.2	2.8	0.2	0.3	1.9	4.8	2.6	7.4	0.2	2.6
20 to 49 employees	E4	11	0.3	3.5	0.2	0.4	2.3	6.6	3.9	10.1	(1.2)	3.2
50 to 99 employees	-	6	0.4	5.5	0.3	0.6	3.6	13.0	10.5	23.2	(D)	6.5
100 to 249 employees	-	3	0.5	5.8	0.4	0.7	3.7	11.6	12.5	22.3	(D)	11.5
250 to 499 employees	-	1	(6.6)	(87.9)	(4.9)	(8.3)	(54.5)	(169.8)	(78.0)	(237.4)	(6.5)	(96.5)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	54	0.3	3.8	0.2	0.4	2.4	6.8	3.2	10.0	0.3	3.8
INDUSTRY 3639, HOUSEHOLD APPLIANCES, N.E.C.												
Total	-	**80**	**15.7**	**195.3**	**12.8**	**25.1**	**142.9**	**527.9**	**667.5**	**1 184.0**	**24.6**	**164.2**
Establishments with an average of—												
1 to 4 employees	E8	21	(Z)	0.4	(Z)	0.1	0.3	0.9	1.1	1.9	(Z)	0.2
5 to 9 employees	E7	9	0.1	0.7	0.1	0.1	0.5	1.8	2.8	4.6	0.1	0.6
10 to 19 employees	E3	10	0.1	2.2	0.1	0.2	1.1	4.4	8.5	12.8	0.6	1.5
20 to 49 employees	-	8	0.2	2.5	0.2	0.4	1.8	5.0	8.8	13.8	0.1	2.2
50 to 99 employees	-	7	0.5	5.3	0.3	0.6	2.5	14.7	21.7	35.5	0.9	6.0
100 to 249 employees	-	9	1.5	13.6	1.2	2.1	9.1	52.9	79.6	131.4	3.0	19.2
250 to 499 employees	-	4	1.2	14.9	1.0	2.1	10.6	47.9	70.6	115.6	1.1	25.5
500 to 999 employees	-	7	4.4	49.1	3.6	7.1	35.6	138.8	173.7	311.7	9.0	43.9
1,000 to 2,499 employees	-	5	7.6	106.5	6.4	12.4	81.4	261.5	300.8	556.5	9.8	65.1
Covered by administrative records[2]	E0	29	0.1	1.8	0.1	0.2	1.2	4.0	5.2	9.2	0.1	1.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3631	**Household cooking equipment:**										
	Entire industry	96	25.4	289.1	19.1	36.8	197.9	784.1	943.9	1 707.2	36.1
	Establishments with 75 percent specialization or more	84	22.1	254.8	16.5	31.8	174.5	700.5	866.7	1 546.7	29.8
36311	Electric ranges, ovens, and surface cooking units:										
	Establishments with this product class primary	25	15.1	177.4	10.8	20.9	117.6	520.0	554.0	1 060.3	21.8
	Establishments with 75 percent specialization or more in class	16	11.2	135.9	8.0	15.5	90.1	407.6	430.4	825.2	(D)
36313	Gas ranges, ovens, and surface cooking units:										
	Establishments with this product class primary	20	7.5	82.3	6.0	11.6	59.9	176.5	290.3	459.8	10.9
	Establishments with 75 percent specialization or more in class	9	2.4	22.1	1.9	3.4	15.9	49.4	80.3	126.0	3.4
36314	Outdoor cooking equipment and household cooking equipment, n.e.c.:										
	Establishments with this product class primary	13	2.2	23.7	1.7	3.4	16.7	75.8	79.5	155.1	2.2
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3632	**Household refrigerators and freezers:**										
	Entire industry	42	35.8	468.6	29.8	56.9	358.0	1 166.1	1 447.6	2 576.6	46.9
	Establishments with 75 percent specialization or more	34	17.0	201.4	14.6	27.1	157.6	627.7	699.7	1 316.5	22.0
36321	Household refrigerators:										
	Establishments with this product class primary	18	31.9	424.1	26.6	51.4	326.6	1 063.9	1 288.7	2 321.0	37.6
	Establishments with 75 percent specialization or more in class	14	15.1	183.6	12.9	24.4	144.8	590.4	633.9	1 217.1	(D)
36322	Household food freezers:										
	Establishments with this product class primary	5	3.5	39.9	2.9	4.9	28.6	96.6	148.0	240.0	(D)
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36323	Parts for household refrigerators and freezers:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3633	**Household laundry equipment:**										
	Entire industry	31	19.4	262.4	15.9	29.4	202.4	844.7	953.1	1 792.8	27.3
	Establishments with 75 percent specialization or more	26	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36331	Household washers and dryers:										
	Establishments with this product class primary	13	18.5	253.3	15.2	28.1	195.5	823.6	919.6	1 738.7	25.8
	Establishments with 75 percent specialization or more in class	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36333	Other household laundry equipment:										
	Establishments with this product class primary	13	0.8	8.9	0.7	1.2	6.7	20.7	33.0	53.0	1.5
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3634	**Electric housewares and fans:**										
	Entire industry	291	47.3	458.7	37.6	71.4	305.0	1 365.7	1 169.8	2 531.2	47.8
	Establishments with 75 percent specialization or more	256	34.3	301.8	29.1	55.5	222.2	992.7	863.2	1 861.1	34.4
36341	Electric fans, except industrial type:										
	Establishments with this product class primary	20	5.6	62.9	3.8	6.9	32.2	193.6	177.8	370.4	10.2
	Establishments with 75 percent specialization or more in class	13	2.2	18.9	1.8	3.3	12.9	56.5	78.0	135.0	5.6
36345	Small household electric appliances except fans:										
	Establishments with this product class primary	102	37.4	361.6	30.3	57.8	249.5	1 102.1	931.3	2 031.7	33.5
	Establishments with 75 percent specialization or more in class	81	25.8	230.1	22.1	42.3	172.5	789.0	649.7	1 445.9	22.0
36349	Parts for small household electric appliances:										
	Establishments with this product class primary	21	3.0	22.7	2.5	4.7	15.6	41.2	36.4	77.2	1.8
	Establishments with 75 percent specialization or more in class	17	2.0	15.8	1.7	3.3	11.0	29.3	25.0	54.1	(D)
3635	**Household vacuum cleaners:**										
	Entire industry	36	10.4	117.1	7.4	13.0	79.2	380.4	267.5	644.3	16.4
	Establishments with 75 percent specialization or more	33	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3636	**Sewing machines:**										
	Entire industry	92	8.2	107.3	6.1	10.6	67.1	209.5	109.3	305.9	8.1
	Establishments with 75 percent specialization or more	90	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36361	Household sewing machines:										
	Establishments with this product class primary	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36362	Industrial sewing machines:										
	Establishments with this product class primary	17	2.9	40.3	2.1	3.3	26.4	105.2	31.5	137.2	(D)
	Establishments with 75 percent specialization or more in class	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3639	**Household appliances, n.e.c.:**										
	Entire industry	80	15.7	195.3	12.8	25.1	142.9	527.9	667.5	1 184.0	24.6
	Establishments with 75 percent specialization or more	70	14.1	177.9	11.5	22.6	130.8	486.7	606.1	1 082.8	(D)
36391	Electric household water heaters:										
	Establishments with this product class primary	6	0.7	9.7	0.6	1.2	6.1	27.6	41.1	67.8	0.7
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36392	Household water heaters, except electric:										
	Establishments with this product class primary	12	5.4	71.7	4.3	9.5	52.5	213.6	275.0	484.7	9.1
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36394	Dishwashers, disposals, compactors, and polishers:										
	Establishments with this product class primary	14	7.9	98.2	6.6	11.9	74.5	253.7	318.7	565.7	12.7
	Establishments with 75 percent specialization or more in class	10	6.9	87.4	5.9	10.5	67.2	224.5	271.2	490.6	(D)
36399	Other major household appliances and parts, n.e.c.:										
	Establishments with this product class primary	10	1.4	12.6	1.1	2.1	7.7	25.9	23.4	49.5	1.6
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3631	Household cooking equipment	1977	1,707.2	1,454.1	132.5	120.6	92	1,818.8	1,454.1	364.7	80
		1972	939.8	763.8	78.3	97.7	91	1,027.0	763.8	263.2	74
		1967	551.9	482.4	39.2	30.3	92	632.1	482.4	149.7	76
3632	Household refrigerators and freezers	1977	2,576.6	1,963.6	571.5	41.4	77	2,005.6	1,963.6	42.0	98
		1972	1,719.7	(D)	(D)	134.7	75-80	1,419.4	(D)	(D)	80-85
		1967	1,785.4	984.4	697.8	103.2	59	987.6	984.4	3.2	99
3633	Household laundry equipment	1977	1,792.8	1,541.3	224.3	27.2	87	1,697.3	1,541.3	156.0	91
		1972	1,356.5	1,168.8	166.1	21.6	88	1,289.9	1,168.8	121.1	91
		1967	982.5	838.9	121.5	22.1	87	931.7	838.9	92.8	90
3634	Electric housewares and fans	1977	2,531.2	2,062.5	296.4	172.3	87	2,304.0	2,062.5	241.5	90
		1972	1,613.3	1,318.4	173.6	121.3	88	1,448.0	1,318.4	129.6	91
		1967	1,112.0	918.4	100.1	93.5	90	1,073.2	918.4	154.8	86
3635	Household vacuum cleaners	1977	644.3	577.6	(D)	(D)	(D)	710.4	577.6	132.8	81
		1972	467.7	371.5	90.9	5.3	80	439.2	371.5	67.7	85
		1967	293.2	212.9	71.2	9.1	75	254.5	212.9	41.6	84
3636	Sewing machines	1977	305.9	(D)	(D)	(D)	(D)	260.4	(D)	(D)	(D)
		1972	159.6	141.7	(D)	(D)	95-100	152.1	141.7	10.4	93
		1967	123.6	112.7	(D)	(D)	95-99	116.8	112.7	4.1	96
3639	Household appliances, n.e.c	1977	1,184.0	1,087.2	82.4	14.4	93	1,383.0	1,087.2	295.8	79
		1972	681.9	619.8	46.1	16.0	93	816.5	619.8	196.7	76
		1967	479.9	403.7	61.4	14.8	87	510.2	403.7	106.5	79

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Household cooking equipment (SIC 3631)	Household refrigerators and freezers (SIC 3632)	Household laundry equipment (SIC 3633)	Electric housewares and fans (SIC 3634)	Household vacuum cleaners (SIC 3635)	Sewing machines (SIC 3636)	Household appliances, n.e.c. (SIC 3639)	Other industries
	Total	(X)	1,707.2	2,576.6	1,792.8	2,531.2	644.3	305.9	1,184.0	(X)
	Primary products	(X)	1,454.1	1,963.6	1,541.3	2,062.5	577.6	(D)	1,087.2	(X)
	Secondary products	(X)	132.5	571.5	224.3	296.4	(D)	(D)	82.4	(X)
	Miscellaneous receipts	(X)	120.6	41.4	27.2	172.3	(D)	(D)	14.4	(X)
3631-	Household cooking equipment	1,818.8	1,454.1	(D)	(D)	(D)	-	-	(D)	138.7
36311	Electric ranges, ovens, and surface cooking units	1,232.5	965.0	(D)	(D)	(D)	-	-	(D)	(D)
36313	Gas ranges, ovens, and surface cooking units	349.1	341.6	-	-	-	-	-	-	7.5
36314	Outdoor cooking equipment and household cooking equipment, n.e.c	215.8	127.3	-	-	(D)	-	-	-	(D)
36310	Household cooking equipment, n.s.k	21.4	20.1	-	-	-	-	-	-	1.2
3632-	Household refrigerators and freezers	2,005.6	(D)	1,963.6	-	(D)	-	-	(D)	(D)
36321	Household refrigerators	1,644.4	-	(D)	-	-	-	-	-	(D)
36322	Household food freezers	296.0	(D)	278.7	-	(D)	-	-	-	-
36323	Parts for household refrigerators and freezers	61.8	-	(D)	-	-	-	-	(D)	2.3
36320	Household refrigerators and freezers, n.s.k	3.4	-	3.2	-	-	-	-	-	.2
3633-	Household laundry equipment	1,697.3	-	(D)	1,541.3	-	(D)	-	-	34.6
36331	Household washers and dryers	1,460.3	-	(D)	1,333.4	-	(D)	-	-	(D)
36333	Other household laundry equipment, n.e.c	235.9	-	-	206.9	-	(D)	-	-	(D)
36330	Household laundry equipment, n.s.k	1.1	-	-	1.0	-	-	-	-	.1
3634-	Electric housewares and fans	2,304.0	(D)	-	-	2,062.5	(D)	-	(D)	211.2
36341	Electric fans, except industrial	257.0	(D)	-	-	222.6	-	-	-	(D)
36345	Small household electric appliances, except fans	1,846.2	(D)	-	-	1,647.7	(D)	-	(D)	191.2
36349	Parts for small household electric appliances	148.4	(D)	-	-	(D)	(D)	-	-	(D)
36340	Electric housewares and fans, n.s.k	52.4	-	-	-	(D)	-	-	-	(D)
36350	Household vacuum cleaners	710.4	-	(D)	-	(D)	577.6	(D)	-	21.9
3636-	Sewing machines	260.4	-	-	-	-	-	(D)	-	(D)
36361	Household sewing machines	(D)	-	-	-	-	-	(D)	-	-
36362	Industrial sewing machines	(D)	-	-	-	-	-	(D)	-	(D)
36360	Sewing machines, n.s.k	22.9	-	-	-	-	-	(D)	-	(D)
3639-	Household appliances, n.e.c	1,383.0	30.1	(D)	(D)	(D)	30.6	-	1,087.2	90.8
36391	Electric household water heaters	222.5	-	-	-	-	-	-	(D)	(D)
36392	Household water heaters, except electric	281.6	(D)	-	-	-	-	-	280.4	(D)
36394	Dishwashers, disposals, compactors, and polishers	721.8	(D)	(D)	(D)	(D)	30.6	-	520.0	(D)
36399	Other major household appliances and parts, n.e.c	139.8	(D)	-	(D)	(D)	-	-	(D)	81.1
36390	Household appliances, n.e.c., n.s.k	17.3	-	(D)	-	-	-	-	16.7	(D)
	Other shipments by 4-digit product group:									
2514-	Metal household furniture	(X)	-	-	-	(D)	-	-	-	(X)
2519-	Household furniture, n.e.c	(X)	-	-	-	-	-	(D)	-	(X)
3079-	Miscellaneous plastics products	(X)	-	-	-	(D)	-	(D)	-	(X)
3412-	Metal barrels, drums, and pails	(X)	-	-	-	-	-	-	(D)	(X)
3431-	Metal plumbing fixtures	(X)	-	-	-	(D)	-	-	-	(X)
3432-	Plumbing fittings and brass goods	(X)	-	-	-	(D)	-	-	-	(X)
3433-	Heating equipment, except electric	(X)	(D)	-	-	(D)	-	-	19.2	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	(D)	(D)	(D)	-	-	-	(X)
3483-	Ammunition, except for small arms, n.e.c	(X)	-	-	-	(D)	-	-	-	(X)
3523-	Farm machinery and equipment	(X)	-	-	-	(D)	-	-	-	(X)
3561-	Pumps and pumping equipment	(X)	(D)	-	-	(D)	-	-	(D)	(X)
3563-	Air and gas compressors	(X)	(D)	-	-	(D)	-	-	-	(X)
3564-	Blowers and fans	(X)	-	-	-	(D)	-	-	-	(X)
3567-	Industrial furnaces and ovens	(X)	(D)	-	-	(D)	-	-	(D)	(X)
3582-	Commercial laundry equipment	(X)	-	-	(D)	(D)	-	-	-	(X)
3585-	Refrigeration and heating equipment	(X)	(D)	198.7	(D)	(D)	-	-	(D)	(X)
3589-	Service industry machinery, n.e.c	(X)	(D)	-	-	(D)	(D)	-	15.0	(X)
3612-	Transformers	(X)	-	-	-	(D)	-	-	-	(X)
3621-	Motors and generators	(X)	-	-	(D)	(D)	-	(D)	-	(X)
3645-	Residential lighting fixtures	(X)	-	-	-	(D)	-	-	-	(X)
3662-	Radio and TV communication equipment	(X)	-	-	-	(D)	-	-	-	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	(D)	-	(D)	(D)	-	-	-	(X)
3964-	Needles, pins, and fasteners	(X)	-	-	-	-	-	2.3	-	(X)
3991-	Brooms and brushes	(X)	-	-	-	(D)	-	-	-	(X)
3999-	Manufacturing industries, n.e.c	(X)	-	-	-	(D)	-	-	-	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Household cooking equipment (SIC 3631)	Household refrigerators and freezers (SIC 3632)	Household laundry equipment (SIC 3633)	Electric housewares and fans (SIC 3634)	Household vacuum cleaners (SIC 3635)	Sewing machines (SIC 3636)	Household appliances n.e.c. (SIC 3639)	Other industries
	Miscellaneous receipts:									
93000 00	Contract work	(X)	(D)	-	(D)	(D)	(D)	-	(D)	(X)
99980 13	Sales of scrap and refuse	(X)	1.7	2.9	5.2	(D)	(D)	-	2.1	(X)
99980 31	Receipts for installation or construction	(X)	-	-	-	(D)	-	-	-	(X)
99980 41	Receipts for research and developmental work	(X)	-	-	-	(D)	-	-	-	(X)
99980 61	Receipts for repair work	(X)	(D)	(D)	(D)	(D)	(D)	-	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(X)
99989 00	Resales	(X)	111.1	33.5	16.2	91.9	(D)	(D)	12.0	(X)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3631-	3469 Metal stampings, n.e.c	(D)	3634-	3585 Refrigeration and heating equipment	(D)
	3567 Industrial furnaces and ovens	(D)			
	3585 Refrigeration and heating equipment	(D)		3873 Watches, clocks, and watchcases	(D)
	3949 Sporting and athletic goods, n.e.c	(D)		3999 Manufacturing industries, n.e.c	(D)
3633-	3494 Valves and pipe fittings	(D)	3635-	3714 Motor vehicle parts and accessories	(D)
			3636-	3551 Food products machinery	(D)
3634-	3079 Miscellaneous plastics products	(D)	3639-	3567 Industrial furnaces and ovens	(D)
	3444 Sheet metal work	(D)		3585 Refrigeration and heating equipment	(D)
	3469 Metal stampings, n.e.c	(D)		3714 Motor vehicle parts and accessories	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	HOUSEHOLD COOKING EQUIPMENT						
3631- --	Total	.....	(NA)	(X)	1,818.8	(X)	1,027.0
36311 --	Electric, electronic, and microwave household ranges, ovens, and surface cooking units, including parts:						
	As reported in census of manufactures	.....	37	(X)	1,232.5	(X)	582.8
	As reported in Current Industrial Reports MA-36F, Major Household appliances	.....	33	(X)	1,234.2	(X)	548.2
	Free-standing ranges (widths are outside dimensions):						
36311 11	Under 23 inches in width, all types, including apartment house type	Thousands	14	117.3	r14.3	140.1	13.3
	23 inches up to and including 32 inches in width						
36311 21	Low oven		20	1,628.6	315.6	1,730.4	245.5
36311 24	High oven		8	20.6	7.5	49.4	8.1
36311 26	High-low oven		16	133.6	53.7	191.4	52.8
36311 35	33 inches and over in width, all types		10	86.9	22.5	210.0	36.6
	Other than free-standing:						
	Built-in ranges:						
	Built-in ovens:						
36311 53	Single oven		18	332.4	60.9	261.4	29.1
36311 55	Two ovens		15	124.6	38.1	118.0	24.2
36311 61	Surface cooking tops		19	609.6	81.5	396.2	26.5
36311 65	Drop-in ranges		10	399.7	81.7	510.8	65.0
36311 72	Household electronic stoves and ovens, excluding microwave		1	(1)	(1)	84.9	24.8
36311 73	Microwave ranges and ovens, excluding portable ovens		10	r180.4	r113.9	(X)	(X)
36311 74	Microwave ovens, portable		9	r1,283.5	r342.0	(X)	(X)
36311 80	Other electric ranges, n.e.c.		5	1168.9	127.2		
36311 85	Parts and accessories for household electric ranges and ovens, such as burners, rotisseries, oven racks, broiler pans, etc	Thousands	14	(X)	r75.3	(X)	222.3
36313 --	Gas household ranges, ovens, and surface cooking units, and equipment, including parts:						
	As reported in census of manufactures	.....	32	(X)	349.1	(X)	3352.1
	As reported in Current Industrial Reports MA-36F, Major Household Appliances	.....	24	(X)	r345.2	(X)	3353.7
	Standard type, free-standing ranges (outside dimensions):						
36313 11	Over 32-inch cooking top and oven	Thousands	19	196.9	r42.4	297.2	49.4
36313 13	Over 24-inch to 32-inch cooking top and oven		18	1,018.0	204.5	1,353.6	184.5
36313 15	Apartment ranges (24-inch cooking top and under)		13	190.9	22.2	277.4	21.6
36313 17	Standard type, for built-in installation (built-in or stack-on oven broiler unit)		14	r138.8	26.2	176.3	22.3
36313 19	Surface cooking tops (one or more burners)		12	160.5	11.1	251.4	9.2
	Nonstandard range types:						
36313 21	Wall hung		2			26.4	3.2
36313 23	Slide-in or drop-in (including, as one unit, a drop-in cooking surface with a slide-in oven)		10	r196.4	r23.8	374.4	38.9
36313 24	Hotplates		4	22.7	.5	80.6	.7
36313 29	Other gas household ranges, ovens, and surface cooking units not listed above		5	33.4	11.2		
36313 85	Parts and accessories for gas household ranges and ovens, such as burners, rotisseries, oven racks, broiler pans, etc. (sold separately)	Thousands	8	(X)	r3.3	(X)	23.9
36314 --	Outdoor cooking equipment, and household ranges and cooking equipment, other than electric or gas, including parts:						
	As reported in census of manufactures	.....	29	(X)	215.8	(X)	388.4
	As reported in Current Industrial Reports MA-36F, Major Household Appliances	.....	33	(X)	200.9	(X)	(X)
	Outdoor cooking equipment:						
	Permanently installed units:						
36314 01	Solid fuel consuming (charcoal, etc.)	Thousands	3	r178.8	14.1		
36314 02	Other fuel consuming		9				
	Portable units:						
36314 03	Solid fuel consuming (charcoal, etc.)		21	7,346.4	71.6	(S)	87.2
36314 04	Gasoline, white gas, and kerosene		7	989.0	40.9		
36314 05	Other fuel consuming (propane, etc.)	Thousands	17	r 4722.0	r51.7		
36314 10	Parts and accessories for outdoor cooking equipment (sold separately)	.....	19	(X)	21.2		
36314 21	Household ranges and cooking equipment, other than electric or gas (wood, coal, etc.), including parts and accessories	.....	7	(NA)	1.4	(X)	1.2
36310 00	Household cooking equipment, n.s.k., typically for establishments with 10 employees or more	.....	(NA)	(X)	11.1	(X)	2.0
36310 02	Household cooking equipment, n.s.k., typically for establishments with less than 10 employees	.....	(NA)	(X)	10.3	(X)	1.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments Quantity	1977 Product shipments Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	HOUSEHOLD REFRIGERATORS AND FREEZERS						
3632- --	Total	.....	(NA)	(X)	2,005.6	(X)	1,419.4
36321 --	Household refrigerators, including combination refrigerator-freezers:						
	As reported in the census of manufactures	.....	18	(X)	1,644.4	(X)	1,207.8
	As reported in Current Industrial Reports MA-36F, Major Household Appliances	Thousands	21	5,673.6	1,639.5	6,068.5	1,200.2
	Complete units:						
36321 07	6.4 cubic feet and under		6	131.9	16.0	135.9	14.8
36321 08	6.5 to 8.4 cubic feet		3				
36321 15	8.5 to 9.4 cubic feet		-	-	-		
36321 16	9.5 to 10.4 cubic feet		3	667.0	116.7	1,148.8	145.0
36321 17	10.5 to 11.4 cubic feet		-				
36321 21	11.5 to 12.4 cubic feet		6	1,006.1	207.6	241.3	33.9
36321 22	12.5 to 13.4 cubic feet		2			951.8	150.9
36321 27	13.5 to 14.4 cubic feet		5	840.7	211.2	816.6	152.5
36321 33	14.5 to 15.4 cubic feet		4			306.2	58.0
36321 36	15.5 to 16.4 cubic feet		3	700.4	206.5	775.8	171.6
36321 42	16.5 to 17.4 cubic feet		6	406.1	117.5	365.6	75.9
36321 44	17.5 to 18.4 cubic feet		6	666.2	216.3	429.5	113.3
36321 46	18.5 to 19.4 cubic feet		5	1,218.7	530.9	879.1	277.2
36321 48	19.5 cubic feet and over		8	36.5	16.8	17.9	7.1
36321 61	Range-refrigerator and/or sink combinations	Thousands	5				
36322 --	Food freezers, complete units, for freezing and/or storing frozen food, household type:						
	As reported in the census of manufactures	.....	12	(X)	296.0	(X)	199.8
	As reported in Current Industrial Reports MA36-F, Major Household Appliances	Thousands	12	1,547.9	294.1	1,355.4	193.1
	Complete units:						
36322 13	8.4 cubic feet and under		9	217.2	27.6	35.6	3.3
36322 16	8.5 to 10.4 cubic feet		8	123.2	19.0	92.6	10.2
36322 19	10.5 to 12.4 cubic feet		4	77.8	12.9	89.9	10.9
36322 20	12.5 to 14.4 cubic feet		4	25.2	4.8	71.6	9.5
36322 23	14.5 to 15.4 cubic feet		7	292.9	54.6	228.4	29.9
36322 26	15.5 to 17.4 cubic feet		8	236.2	47.9	349.1	50.8
36322 30	17.5 to 19.4 cubic feet		5	384.0	81.8	158.9	26.4
36322 33	19.5 to 21.4 cubic feet		8			113.7	18.3
36322 40	21.5 to 23.4 cubic feet		3	191.4	45.5	215.6	33.8
36322 44	23.5 cubic feet and over	Thousands	8				
36323 --	Parts and attachments for household refrigerators and freezers:						
36323 81	Parts and attachments for household refrigerators and freezers	.....	9	(X)	61.8	(X)	(5)
36320 00	Household refrigerators and freezers, n.s.k., typically for establishments with 5 employees or more	.....	(NA)	(X)	1.6	(X)	11.3
36320 02	Household refrigerators and freezers, n.s.k., typically for establishments with less than 5 employees	.....	(NA)	(X)	1.8	(X)	.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	HOUSEHOLD LAUNDRY EQUIPMENT						
3633- --	Total	.....	(NA)	(X)	1,697.3	(X)	1,289.9
36331 --	Household mechanical washing machines, dryers, and washer-dryer combinations, excluding parts:						
	As reported in census of manufactures	.....	13	(X)	1,460.3	(X)	1,138.5
	As reported in Current Industrial Reports MA-36F, Major Household Appliances	Thousands.....	12	8,560.1	1,450.6	9,062.7	1,117.6
	Washing machines, mechanical, including those with dishwasher attachments:						
	Standard size, electrically driven:						
36331 31	Fully automatic and semiautomatic, excluding coin-operated		8	4,743.0	903.3	4,844.3	680.9
36331 36	Nonautomatic, wringer type and spinner type		4	228.7	37.0	299.1	31.4
36331 39	All other, including gasoline-driven and small size		3				
	Dryers, mechanical:						
36331 51	Gas		8	756.5	121.2	(6)	(6)
36331 55	Electric		9	2,832.0	389.1	2,937.9	281.9
	Washer-dryer combinations (in one cabinet):						
36331 81	Electric		1			6981.4	6123.4
36331 85	Gas	Thousands.....	-	-	-		
36333 --	Household laundry equipment, except washers, dryers, and washer-dryer combinations, including parts for all household laundry equipment	.....	(NA)	(X)	235.9	(X)	148.7
36333 11	Coin-operated washer-extractor combinations, 10 pounds maximum load and under (self-service type)	Thousands.....	2			133.5	23.8
36333 15	Coin-operated drying tumblers, 10 pounds maximum load and under (self-service type)		2				
36333 71	Other household laundry equipment, including wringers		2	(S)	31.9		
36333 92	Tubs and baskets with enameled finishes for household laundry equipment	Thousands.....	1			(S)	4.2
36333 93	Parts, attachments, and accessories for household laundry equipment and washer-dryer combinations, including coin-operated	.....	15	(X)	172.9		
36333 94	Parts, attachments, and accessories for household laundry equipment other than washing machines or washer-dryer combinations	.....	6	(X)	29.4	(X)	117.6
36333 00	Other household laundry equipment and parts, n.s.k.	.....	(NA)	(X)	1.7	(X)	3.1
36330 00	Household laundry equipment, n.s.k., typically for establishments with 5 employees or more	.....	(NA)	(X)	.4	(X)	2.6
36330 02	Household laundry equipment, n.s.k., typically for establishments with less than 5 employees	.....	(NA)	(X)	.7	(X)	.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
				Product shipments		Product shipments	
			Number of companies	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	ELECTRIC HOUSEWARES AND FANS						
3634- --	Total	.....	(NA)	(X)	2,304.0	(X)	1,448.0
36341 --	Electric fans, except industrial type, excluding parts:						
	As reported in census of manufactures	.....	38	(X)	257.0	(X)	127.7
	As reported in Current Industrial Reports MA-36E, Electric Housewares and Fans	.....	(NA)	15,269.9	258.4	(X)	136.6
	Desk and wall bracket:						
36341 37	Oscillating	Thousands.....	7	r1,680.4	r27.4	505.0	5.0
36341 51	Nonoscillating		8			734.0	5.3
	Window, permanent type, reversible and nonreversible, household:						
36341 75	20 inch		6	215.1	6.0	190.0	4.0
36341 77	Other than 20 inch		5	119.4	2.8	107.0	1.3
36341 81	Window, portable, household		8	r5,171.3	r65.4	2,918.0	35.5
36341 83	Rollabouts, mounted on portable stand		5	r52.9	r1.3	193.0	3.1
	Kitchen ventilating and exhaust fans:						
36341 84	Electric range hoods, ducted		16	r1,504.3	r45.9	1,193.0	24.5
36341 85	Electric range hoods, nonducted		15	1,006.5	r27.4	999.0	20.9
36341 86	Oven hoods, ducted and nonducted		6	r120.3	r4.2	33.0	.7
36341 87	Other kitchen ventilating and exhaust fans		10	r4,931.8	r62.5	3,786.0	31.5
36341 98	All other electric fans, except industrial, excluding lightweight furnace and air conditioning blowers and roof ventilators	Thousands.....	9	468.0	15.5	269.0	4.8
36345 --	Small household electric appliances, except fans, excluding parts:						
	As reported in census of manufactures	.....	77	(X)	1,846.2	(X)	1,185.9
	As reported in Current Industrial Reports MA-36E, Electric Housewares and Fans	.....	(NA)	(X)	r1,834.0	(X)	1,130.6
	Electric razors and dry shavers:						
36345 13	Men's	Thousands.....	6	(7)	(7)	2,534.0	45.7
36345 15	Ladies'		4	(7)	(7)	2,370.0	18.7
	Broilers:						
36345 16	Without rotisseries		12	1,819.3	39.5	2,069.0	22.4
36345 17	With rotisseries		8			1,204.0	21.9
	Automatic coffeemakers:						
36345 20	Vacuum, percolator, and drip types		16	9,786.8	r141.9	8,188.0	67.8
36345 21	Urn type		8	824.9	10.9	1,984.0	16.5
36345 23	Deep fat fryers		13	r7,459.8	r68.0	824.0	6.9
36345 24	Ovens and roasters (with or without broiler attachments)		10	2,113.1	53.1	1,198.0	26.1
36345 29	Hotplates and disc stoves (1,650 watts and less), except built-in units		11	907.0	8.7	1,170.0	5.8
36345 36	Automatic toasters		8	6,347.8	70.1	6,485.0	58.0
36345 39	Waffle irons, sandwich grills, griddles, and combinations		18	r13,866.9	r148.5	1,556.0	21.2
36345 42	Frying pans (skillets)		12	2,958.9	53.9	3,223.0	46.0
	Air space heaters:						
	Portable room heaters:						
36345 43	Fan-forced type		18	r3,803.9	r65.0	3,465.0	26.7
36345 44	Other than fan-forced type (convector, radiant, etc.)	Thousands.....	11	267.4	4.6	136.0	1.9
	For fixed installation, all types:						
36345 45	Baseboard, excluding glass panel type	.....	17	2,939.3	61.5	(X)	39.5
36345 47	Other than baseboard, excluding warm air furnaces	.....	16	1,958.3	50.4	(X)	35.6
36345 48	Corn poppers	Thousands.....	14	r4,366.1	r34.7	4,118.0	24.2
36345 49	Other household electric cooking and heating appliances (immersion heaters, faucet attachment water heaters, steam radiators, pressure cookers, casseroles, nonautomatic toasters, nonautomatic coffeemakers, automatic saucepans, food warmers, etc.), excluding covers and controls shipped separately	.....	28	(X)	r176.7	(X)	40.8
	Standard household electric irons:						
36345 50	Steam and spray	Thousands.....	5	9,308.2	104.5	8,572.0	81.7
36345 61	Other than steam, automatic type (thermostat controlled heat)		3	977.6	9.0	737.0	5.3
36345 65	Travel irons		2				
36345 69	Other electric irons (tailors', milliners', boudoir nonautomatic standard household, etc.)		-	-	-		
	Household food preparation appliances:						
	Food mixers, including standard attachments sold together with mixers:						
36345 71	Hand (portable)		7	3,868.9	33.8	4,024.0	33.5
36345 75	Stand		7	1,422.9	58.5	1,302.0	27.7
36345 76	Blenders (liquefiers)		6	6,352.8	123.0	5,417.0	76.5
36345 77	Ice crushers	Thousands.....	4			404.0	2.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments Quantity	1977 Product shipments Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
3634- --	ELECTRIC HOUSEWARES AND FANS--Con.						
36345 --	Small household electric appliances, except fans, excluding parts--Con.						
	As reported in Current Industrial Reports MA-36E, Electric Housewares and Fans--Con.						
36345 78	Other household food preparation appliances, including drink mixers, whippers, juicers, grinders, slicers, and chippers	.....	14	r1,461.8	r45.8	(X)	30.4
	Miscellaneous electric appliances:						
36345 83	Electric blankets		3				
36345 85	Other electric bed covering, including sheets, mattress covers, and comforters		2	(7)	(7)	4,042.0	44.4
36345 87	Heating pads, including foot warmers		7	4,126.9	18.5	3,854.0	10.6
36345 88	Electric knives		6	(7)	(7)	1,914.0	17.6
36345 91	Electric toothbrushes		4	337.7	4.1	(D)	(8)
36345 92	Air purifiers, portable		5	307.0	1.9	459.0	3.1
36345 93	Can openers (single-purpose units, combination purpose units such as can opener combined with knife sharpener, etc.)		10	r 92,876.5	r28.8	5,487.0	37.5
	Hair dryers:						
36345 94	With bonnets		5	453.6	7.7	2,817.0	33.7
36345 95	Without bonnets		6	r2,316.2	r24.5	756.0	9.7
36345 96	Humidifiers (portable)		10	93,860.8	55.8	877.0	27.1
36345 97	Knife sharpeners		2	(7)	(7)	(D)	(8)
36345 98	Other electric appliances (curling irons, vibrators, hand and face dryers, etc.)		30	(X)	r 7330.6	(X)	8164.0
36349 --	Parts and attachments for small household electric appliances	.....	(NA)	(X)	148.4	(X)	79.0
36349 11	Parts and attachments for household electric fans	.....	9	(X)	15.1		
	Other parts and attachments:						
36349 13	Electrothermal	.....	12	(X)	39.9		
36349 18	Electromechanical	.....	6	(X)	32.4	(X)	79.0
36349 98	Other	.....	15	(X)	59.6		
36349 00	Parts and attachments for small household electric appliances, n.s.k.	.....	(NA)	(X)	1.4		
36340 00	Electric housewares and fans, n.s.k., typically for establishments with 20 employees or more	.....	(NA)	(X)	28.8	(X)	42.9
36340 02	Electric housewares and fans, n.s.k., typically for establishments with less than 20 employees	.....	(NA)	(X)	23.6	(X)	12.5

1977 product code	Product	Unit of measure	1977 Number of companies with shipments of $100,000 or more	1977 Product shipments[10] Quantity[11]	1977 Product shipments[10] Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	HOUSEHOLD VACUUM CLEANERS						
3635- --	Total	.....	(NA)	(X)	710.4	(X)	439.2
36350 --	Household vacuum cleaners, including parts and attachments:						
36350 11	Hand type	Thousands.....	7	1,639.8	42.7	(X)	(12)
	Electric:						
36350 33	Upright type		9	3,739.1	200.3		
36350 34	Tank type		4				
36350 35	Canister type		13	3,717.1	282.8	7,896.7	353.6
36350 36	Other general purpose types, excluding hand type		3				
36350 41	Complete power units, central system type	Thousands.....	8	809.2	85.3	32.0	5.7
36350 51	Attachments and cleaning tools, including central system type	.....	7	(X)	16.9	(X)	36.1
36350 71	Parts for household type vacuum cleaners, including central system	.....	16	(X)	73.8	(X)	1239.7
36350 00	Household vacuum cleaners, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	6.5	(X)	3.7
36350 02	Household vacuum cleaners, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	2.1	(X)	.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[10]		Product shipments	
				Quantity[11]	Value (million dollars)	Quantity	Value (million dollars)
	SEWING MACHINES						
3636- --	Total	.....	(NA)	(X)	260.4	(X)	152.1
36361 --	Household sewing machines, including parts and attachments	.....	(NA)	(X)	(D)	(X)	(D)
36361 21	Household sewing machines, including heads for sale with cabinets or cases, and heads for sale separately	Thousands	1	(D)	[13]	(X)	[13]
36361 84	Parts and attachments for household sewing machines, excluding cases and cabinets	.....	1	(X)			
36361 00	Household sewing machines, n.s.k	.....	-	(X)	-	(X)	-
36362 --	Industrial sewing machines and machinery, excluding shoe sole stitching machines, including parts	.....	(NA)	(X)	(D)	(X)	(D)
36362 74	Sewing machine heads	Thousands	9	63.8	84.6	103.2	83.2
36362 75	Industrial sewing machinery, except heads	.....	4	(X)			
36362 85	Parts and attachments for industrial sewing machinery	.....	13	(X)	[13]152.9	(X)	[13]63.2
36362 00	Industrial sewing machinery, n.s.k	.....	-	(X)	-	(X)	-
36360 00	Sewing machines, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	12.9	(X)	3.3
36360 02	Sewing machines, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	10.0	(X)	2.4

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	HOUSEHOLD APPLIANCES, N.E.C.						
3639- --	Total	.....	(NA)	(X)	1,383.0	(X)	825.2
36391 --	Water heaters, electric, for permanent installation, excluding parts:						
	As reported in census of manufactures	.....	15	(X)	222.5	(X)	119.9
	As reported in Current Industrial Reports MA-36F, Major Household Appliances	Thousands	11	3,080.9	217.1	2,534.6	119.0
	Storage type:						
36391 11	34 gallons and under		10	1,110.1	58.8	1,025.8	35.5
36391 12	35 to 44 gallons		10	721.3	50.6	676.0	32.7
36391 14	45 to 54 gallons		9	923.0	72.8	605.0	31.3
36391 15	55 gallons and over		7				
36391 98	Other types, including circulating and portable storage	Thousands	3	326.5	34.9	227.8	19.5
36392 --	Water heaters, household, except electric, excluding parts:						
	As reported in census of manufactures	.....	13	(X)	281.6	(X)	179.5
	As reported in Current Industrial Reports MA-36F, Major Household Appliances	.....	16	3,590.7	282.3	(X)	[14]171.3
	Direct fired water heaters:						
36392 12	Gas	Thousands	9	3,460.4	265.9	3,320.2	162.1
36392 24	Oil		6	[r]49.3	[r]11.2	15.6	3.2
36392 32	Coal or wood tank heaters		-	-	-	(D)	(D)
36392 52	Indirect water heaters, including storage, cast or coil type (less tank); tanks (with or without generator coils); generator coils with tank collar (sold without tank), and instantaneous	Thousands	5	[r]81.0	[r]5.2	59.7	6.0
36394 --	Household dishwashing machines, food waste disposers, trash compactors, and floor waxing and polishing machines, including parts and attachments:						
	As reported in census of manufactures	.....	27	(X)	721.8	(X)	(NA)
	As reported in Current Industrial Reports MA-36F, Major Household Appliances	Thousands	20	(X)	712.9	(X)	(NA)
	Dishwashing machines:						
36394 12	Portable type, including convertible type		9	659.5	121.2	803.5	105.4
36394 14	Built-in type		9	2,540.0	417.5	2,118.8	254.5
36394 63	Floor waxing, polishing, scrubbing, and shampooing machines (for household use only)		4	1,124.0	30.4	991.4	18.9
36394 71	Food waste disposers (all sizes, electromechanical comminutor type, operating in conjunction with household plumbing systems of type generally used in residences)		10	2,823.0	92.9	2,540.9	66.7
36394 72	Household trash compactors	Thousands	8	259.8	[r]40.1	(X)	[15]
36394 98	Parts and accessories (sold separately)	.....	7	(X)	[r]10.8	(X)	[16]

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments[10]		Product shipments	
				Quantity[11]	Value (million dollars)	Quantity	Value (million dollars)
3639- --	HOUSEHOLD APPLIANCES, N.E.C.--Con.						
36399 --	Other major household appliances and parts, n.e.c.	.....	(NA)	(X)	139.8	(X)	(NA)
36399 60	Other major household appliances	.....	5	(X)	9.7	(X)	[15]46.8
36399 91	Parts and accessories for electric water heaters	.....	9	(X)	46.6	(X)	19.0
36399 93	Parts and accessories for household appliances, n.e.c., except electric water heaters	.....	16	(X)	82.8	(X)	[16]1.7
36399 00	Other major household appliances and parts, n.e.c., n.s.k.	.....	(NA)	(X)	.7		
36390 00	Household appliances, n.e.c., n.s.k., typically for establishments with 20 employees or more	.....	(NA)	(X)	8.1	(X)	10.8
36390 02	Household appliances, n.e.c., n.s.k., typically for establishments with less than 20 employees	.....	(NA)	(X)	9.2	(X)	2.0

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1] For 1977, data for product codes 36311 80 and 36311 72 were combined to avoid disclosing operations of individual companies.

[2] For 1972, data for electric ranges 33 inches and over in width and high-low oven, were included with product code 36311 80, Other electric ranges, n.e.c.

[3] For 1972, product classes 36313 and 36314 were classified as 36312.

[4] 10 to 25 percent of quantity was estimated.

[5] For 1972, value of parts was not collected separately but was included in value of parts in Industry 3585, Refrigeration and Heating Equipment.

[6] For 1972, data for product codes 36331 51, 36331 81, and 36331 85 were combined to avoid disclosing operations of individual companies.

[7] For 1977, product codes 36345 13, 36345 15, 36345 83, 36345 85, 36345 88, and 36345 97 were combined with product code 36345 98 to avoid disclosing operations of individual companies.

[8] For 1972, product codes 36345 91, 36345 97, and 36345 98 were combined to avoid disclosing operations of individual companies.

[9] 10 percent or more of quantity was estimated.

[10] Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[11] For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[12] For 1972, product codes 36350 11 and 36350 71 were combined to avoid disclosing operations of individual companies.

[13] Product codes 36361 21, 36361 84, and 36362 85 were combined to avoid disclosing operations of individual companies.

[14] Excludes value of product code 36392 32.

[15] For 1972, product code 36394 72 was included with product code 36399 60.

[16] For 1972, product codes 36394 98 and 36399 93 were included with product code 36399 00.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36311, ELECTRIC RANGES, OVENS, AND SURFACE COOKING UNITS		
United States	1,232.5	582.8
East North Central Division:		
Ohio	200.5	158.9
East South Central Division:		
Tennessee	144.4	GG
36313, GAS RANGES, OVENS, AND SURFACE COOKING UNITS		
United States	349.1	352.1
East North Central Division:		
Illinois	52.3	(NA)
East South Central Division:		
Tennessee	140.6	(NA)
36314, OUTDOOR COOKING EQUIPMENT AND HOUSEHOLD COOKING EQUIPMENT, N.E.C.		
United States	215.8	88.4
East North Central Division:		
Illinois	66.2	(NA)
Pacific Division:		
California	5.8	(NA)
36331, HOUSEHOLD WASHERS AND DRYERS		
United States	1,460.3	1,138.5
East North Central Division:		
Ohio	687.3	520.2
36333, OTHER HOUSEHOLD LAUNDRY EQUIPMENT, N.E.C.		
United States	235.9	148.7
East North Central Division:		
Wisconsin	13.3	FF
36341, ELECTRIC FANS, EXCEPT INDUSTRIAL		
United States	257.0	127.7
East North Central Division:		
Illinois	38.5	18.0
Michigan	9.3	BB
East South Central Division:		
Tennessee	29.9	14.6
Pacific Division:		
California	6.5	1.0
36345, SMALL HOUSEHOLD ELECTRIC APPLIANCES, EXCEPT FANS		
United States	1,846.2	1,185.9
New England Division:		
Connecticut	108.4	GG
Middle Atlantic Division:		
New York	129.4	GG
New Jersey	16.1	3.1
Pennsylvania	129.1	GG
East North Central Division:		
Ohio	139.0	36.3
Indiana	15.9	16.1
Illinois	45.2	61.3
Michigan	12.7	EE
Wisconsin	162.7	91.8
South Atlantic Division:		
North Carolina	276.6	GG
South Carolina	55.9	43.4
East South Central Division:		
Tennessee	116.0	GG
Mississippi	147.4	76.5
36349, PARTS FOR SMALL HOUSEHOLD ELECTRIC APPLIANCES		
United States	148.4	79.0
Middle Atlantic Division:		
New Jersey	23.9	5.8
East North Central Division:		
Ohio	22.4	21.0
Wisconsin	4.4	EE
East South Central Division:		
Tennessee	12.2	CC
Pacific Division:		
California	6.3	(NA)
36391, ELECTRIC HOUSEHOLD WATER HEATERS		
United States	222.5	119.9
East South Central Division:		
Tennessee	77.4	51.5
36394, DISHWASHERS, DISPOSALS, COMPACTORS, AND POLISHERS		
United States	721.8	(NA)
East North Central Division:		
Ohio	125.4	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3631-	Household cooking equipment	1,818.8	1,513.7	1,101.4	1,211.0	1,200.6	1,027.0	632.1	536.7
36311	Electric ranges, ovens, and surface cooking units	1,232.5	1,062.3	745.2	776.0	706.1	582.8	340.8	282.1
36313	Gas ranges, ovens, and surface cooking units.	349.1							
36314	Outdoor cooking equipment and household cooking equipment, n.e.c.	215.8	463.2	363.5	435.0	486.0	440.5	289.2	281.0
36310	Household cooking equipment, n.s.k.	21.4	(2)	(2)	(Z)	8.5	3.7	2.1	1.1
3632-	Household refrigerators and freezers	2,005.6	1,578.5	1,610.8	1,749.6	1,633.6	1,419.4	987.4	831.8
36321	Household refrigerators	1,644.4	1,309.6	1,142.0	1,281.7	1,319.5	1,207.8	841.0	687.9
36322	Household food freezers	296.0	266.7	466.7	467.9	312.2	199.8	142.8	143.1
36323	Parts for household refrigerators and freezers	61.8	(3)	(3)	(3)	(3)	(3)	(3)	(3)
36320	Household refrigerators and freezers, n.s.k.	3.4	(2.2)	(2.1)	(X)	1.9	11.8	3.6	.8
3633-	Household laundry equipment	1,697.3	1,444.8	1,254.5	1,316.8	1,369.9	1,289.9	990.6	766.1
36331	Household washers and dryers	1,460.3	1,247.8	1,109.2	1,188.9	1,233.9	1,138.5	843.2	698.8
36333	Other household laundry equipment, n.e.c.	235.9	196.9	145.2	127.9	133.4	148.7	142.7	66.8
36330	Household laundry equipment, n.s.k.	1.1	(.1)	(.1)	(Z)	2.6	2.7	4.7	.5
3634-	Electric housewares and fans	2,304.0	1,978.6	1,686.9	1,642.8	1,704.1	1,448.0	1,071.3	810.0
36341	Electric fans, except industrial	257.0	207.3	165.5	153.3	168.2	127.7	123.6	102.1
36345	Small household electric appliances, except fans	1,846.2	1,654.9	1,366.3	1,358.1	1,411.2	1,185.9	865.9	626.5
36349	Parts for small household electric appliances	148.4	168.7	149.7	123.8	93.3	79.0	60.3	81.5
36340	Electric housewares and fans, n.s.k.	52.4	(2)	(S)	(7.6)	31.4	55.4	21.5	10.4
36350	Household vacuum cleaners	710.4	654.4	543.8	516.5	500.9	439.2	254.5	183.1
3636-	Sewing machines	260.4	258.0	204.2	202.6	182.3	152.1	116.8	104.7
36361	Household sewing machines	237.5	258.0	204.2	202.6	182.3	152.1	116.8	104.7
36362	Industrial sewing machines								
36360	Sewing machines, n.s.k.	22.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
3639-	Household appliances, n.e.c.	1,383.0	1,103.0	920.3	987.3	967.3	816.5	510.3	415.7
36391	Electric household water heaters	222.5	167.2	143.1	155.4	136.1	119.9	63.4	61.4
36392	Household water heaters, except electric	281.6	237.1	208.2	168.6	174.9	179.5	130.1	142.2
36394	Dishwashers, disposals, compactors, and polishers	721.8							
36399	Other major household appliances and parts, n.e.c.	139.8	710.7	581.3	662.8	641.8	504.3	298.6	209.2
36390	Household appliances, n.e.c., n.s.k.	17.3	(2)	(2)	(0.5)	14.5	12.8	18.2	2.9

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product-class level, estimates may be of limited reliability; however, they may be combined with other product-class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

[3]Prior to 1977 parts were included with data for complete units.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3631, HOUSEHOLD COOKING EQUIPMENT					
	Materials, parts, containers, and supplies	.....	(X)	840.6	(X)	458.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons..	316.5	120.7	394.1	84.7
331011	Bars and bar shapes					
331013	Plates		39.5	19.0	9.8	3.5
331015	Structural shapes					
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms		10.5	4.9	(NA)	.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	19.7	(NA)	11.9
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip		3.5	8.0	5.5	6.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	.5	1.6	(NA)	.3
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	*6.1	9.2	.9	4.2
335793	Aluminum	Mil. lb (aluminum content)				
335770	Magnet wire	Million lb.....				
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction)		(S)	4.3	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes					
335143	Plate, sheet, and strip, including military cups and discs				(NA)	.4
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		4.2	3.2	3.3	1.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*4.9	5.6	2.3	1.7
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	2.0	(NA)	.5
346901	Metal stampings	1,000 s. tons..	(S)	27.5	14.4	6.2
387316	Timing mechanisms	Thousands.....	*2,585.6	22.9	2,896.7	16.0
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons..	(D)	(D)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		**.6	.8	4.3	2.7
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	**6.9	6.6	3.3	2.3
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
336910	Zinc and zinc-base alloy:					
	Purchased	1,000 s. tons..	(D)	(D)	(X)	[2]3.0
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors:					
362110	Timing motors, synchronous and subsynchronous (under 1 hp):					
	Purchased	Thousands.....	**1,585.3	6.5	208.2	.8
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors (under 1 hp):					
	Purchased		*2,680.6	9.6	2,186.1	5.7
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased		(D)	(D)	-	-
	Produced and consumed	Thousands.....	(S)	(X)	-	(X)
260091	Paper and paperboard containers	.....	(X)	30.7	(X)	16.0
320101	Glass and glass products	.....	(X)	26.5	(X)	[2]17.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	17.5	(X)	[2]10.0
349013	Wire racks, grills, springs, and other fabricated nonelectric wire products	.....	(X)	20.7	(X)	[2]15.0
354011	Dies, jigs, fixtures, punches, and cutting tools for machine tools	.....	(X)	4.1	(X)	[2]9.0
360101	Electric transmission, distribution, and control equipment	.....	(X)	34.4	(X)	([3])
364300	Current-carrying wiring devices	.....	(X)	26.3	(X)	[2]20.0
382201	Automatic temperature controls: Thermostats, regulators, etc	.....	(X)	79.6	(X)	[2]44.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	31.9	(X)	[2]7.0
329300	Gaskets (all types) and asbestos packing	.....	(X)	3.7	(X)	[2]2.0
306902	Fabricated rubber products, except tires, tubes, hoses, belting, and gaskets	.....	(X)	3.8	(X)	[2]1.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	18.7	(X)	[2]5.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Thousand lb....	(D)	(D)	(X)	[2]3.0
339915	Metal powders	Thousand lb....	(D)	(D)	(X)	([3])
335762	Complete flexible cord sets	.....	(X)	3.4	(X)	[2]2.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	219.1	(X)	[3]141.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	46.6	(X)	12.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3632, HOUSEHOLD REFRIGERATORS AND FREEZERS					
	Materials, parts, containers, and supplies	.....	(X)	1,387.0	(X)	820.8
	Mill shapes and forms, except casting:					
	Carbon steel:					
331012	Strip and sheet	1,000 s. tons..	538.4	195.6	502.0	107.3
331011	Bars and bar shapes					
331013	Plates					
331015	Structural shapes		*51.2	25.8	52.1	14.7
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms					
331020	Alloy steel, except stainless					
	Stainless steel:					
331033	Sheet and strip		*5.6	11.1	1.2	2.2
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content).	(D)	(D)	(D)	(D)
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....			(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		*19.3	21.8		
335143	Plate, sheet, and strip, including military cups and discs				22.5	16.2
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		25.2	24.4	27.3	10.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc					
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	*8.4	7.6	25.5	9.2
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons..	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		-	-	(X)	(5)
	Produced and consumed	1,000 s. tons..	-	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	13.6	8.3	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		-	-	(D)	(D)
	Produced and consumed	Million lb.....	-	(X)	(S)	(X)
358501	Compressors, compressor units, condensing units, fin coils, and other heat-transfer equipment	.....	(X)	167.4	(X)	84.1
339915	Metal powders	Million lb.....	(D)	(D)	(D)	(D)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons..	-	-	(D)	(D)
	Produced and consumed	1,000 s. tons..	-	(X)	(S)	(X)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	2,757.7	8.5	3,940.5	6.4
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		**15,764.5	100.1	11,053.5	70.4
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		-	-	(D)	(D)
	Produced and consumed	Thousands.....	-	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	(D)	(X)	(D)
356228	Roller	.....				
260091	Paper and paperboard containers	.....	(X)	39.0	(X)	26.1
242101	Rough and dressed lumber	Million bd. ft.	(S)	3.4	(X)	4.0
244021	Wooden containers, complete, including combination wood and paperboard	.....	(X)	7.1	(X)	(5)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	(X)	47.9	(X)	(5)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	23.4	(X)	233.0
286903	Refrigerant gases and other synthetic organic chemicals	.....	(X)	19.2	(X)	213.0
307902	Fabricated plastics products, except gaskets	.....	(X)	94.6	(X)	2113.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	30.1	(X)	(5)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	14.0	(X)	219.0
329601	Mineral wool insulation (fibrous glass, rock wool, etc.)	.....	(X)	27.5	(X)	218.0
342903	Metal hardware, including hinges, handles, locks, casters, etc	.....	(X)	28.8	(X)	224.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	25.6	(X)	219.0
346901	Metal stampings	.....	(X)	25.8	(X)	211.0
349402	Fabricated metal pipe, valves, and pipe fittings	.....	(X)	(D)	(X)	(5)
356401	Fans and blowers	Thousands.....	(D)	(D)	(X)	5.0
360101	Electrical transmission, distribution, and control equipment	.....	(X)	(D)	(X)	(5)
364300	Current-carrying wiring devices	.....	(X)	16.3	(X)	(5)
382201	Automatic temperature controls, thermostats, regulators, etc	.....	(X)	41.0	(X)	(5)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	346.8	(X)	5197.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	2.8	(X)	1.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3633, HOUSEHOLD LAUNDRY EQUIPMENT					
	Materials, parts, containers, and supplies	.....	(X)	913.1	(X)	665.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(6)	(6)	(6)	(6)
331012	Sheet and strip	1,000 s. tons..	438.5	164.0	623.5	129.4
331013	Plates	1,000 s. tons..	(6)	(6)	(6)	(6)
331015	Structural shapes	1,000 s. tons..	6154.4	6 60.0	6 63.8	6 18.2
331017	Wire and wire products	1,000 s. tons..				
331019	All other carbon steel mill shapes and forms	1,000 s. tons..				
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s. tons..	(S)	5.3	7.4	6.7
331029	All other alloy steel mill shapes and forms	1,000 s. tons..				
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons..				
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	(S)	1.3	2.5	3.2
335793	Aluminum	Mil lb (aluminum content)				
335770	Magnet wire	Million lb.....				
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction)	Million lb.....	(S)	3.9	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....			(S)	.4
335143	Plate, sheet, and strip, including military cups and discs	Million lb.....				
335152	Pipe and tube	Million lb.....				
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.....	(S)	5.6	9.8	2.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc	Million lb.....				
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....				
346901	Metal stampings	1,000 s. tons..	(D)	(D)	(D)	(D)
387316	Timing mechanisms	Thousands.....	**5,354.7	26.3	6,536.2	26.3
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons..	(D)	(D)	-	-
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons..	*41.3	17.6	44.7	14.1
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	30.9	17.6	11.9	6.7
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
336910	Zinc and zinc-base alloy:					
	Purchased	1,000 s. tons..	5.2	7.4	(X)	2 20.0
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors:					
362110	Timing motors, synchronous and subsynchronous (under 1 hp):					
	Purchased	Thousands.....	(S)	12.7	(D)	(D)
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors (under 1 hp):					
	Purchased	Thousands.....	*10,729.9	129.1	6,941.9	66.4
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased	Thousands.....	-	-	2,417.2	27.7
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
260091	Paper and paperboard containers	.....	(X)	32.7	(X)	23.6
320101	Glass and glass products	.....	(X)	(D)	(X)	(7)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	26.5	(X)	2 21.0
349013	Wire racks, grills, springs, and other fabricated nonelectric wire products	.....	(X)	6.4	(X)	2 6.0
354011	Dies, jigs, fixtures, punches, and cutting tools for machine tools	.....	(X)	4.5	(X)	(7)
360101	Electric transmission, distribution, and control equipment	.....	(X)	(D)	(X)	(7)
364300	Current-carrying wiring devices	.....	(X)	28.7	(X)	(7)
382201	Automatic temperature controls: Thermostats, regulators, etc	.....	(X)	40.7	(X)	2 41.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	20.9	(X)	2 14.0
329300	Gaskets (all types) and asbestos packing	.....	(X)	7.4	(X)	(7)
306902	Fabricated rubber products, except tires, tubes, hoses, belting, and gaskets	.....	(X)	22.0	(X)	2 31.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	27.3	(X)	2 31.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Thousand lb....	39.1	15.0	(X)	(7)
339915	Metal powders	Thousand lb....	(S)	1.6	(X)	(7)
335762	Complete flexible cord sets	.....	(X)	(D)	(X)	(7)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	188.7	(X)	7 162.5
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	31.2	(X)	2.3

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3634, ELECTRIC HOUSEWARES AND FANS					
	Materials, parts, containers, and supplies	.....	(X)	1,069.1	(X)	649.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	**39.5	17.4	(S)	.7
331012	Sheet and strip		112.8	47.2	155.0	35.0
331013	Plates		.7	.3		
331015	Structural shapes		4.3	2.3	(S)	6.8
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms		5.7	3.1		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	(Z)	6.1	3.0
331029	All other alloy steel mill shapes and forms		**10.7	11.0	26.3	9.5
	Stainless steel:					
331033	Sheet and strip		11.0	14.9	11.4	16.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	*.4	1.1	1.7	3.0
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	4.4	8.7	21.1	21.6
335793	Aluminum	Mil. lb (aluminum content)				
335770	Magnet wire	Million lb.....	6.2	8.4		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		5.2	5.8	6.7	8.2
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		2.5	2.4	1.7	1.8
335143	Plate, sheet, and strip, including military cups and discs		.6	1.0	3.1	2.4
335152	Pipe and tube		.1	.2	.9	.8
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**52.7	39.1	45.7	16.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**5.3	4.2	1.5	1.3
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	14.9	6.8	18.9	4.5
346901	Metal stampings	1,000 s. tons..	(S)	34.8	(D)	(D)
387316	Timing mechanisms	Thousands.....	**1,299.0	2.6	740.2	1.1
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons..	-	-	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*.6	.6	(D)	(D)
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	*40.2	29.0	29.2	11.2
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
336910	Zinc and zinc-base alloy:					
	Purchased	1,000 s. tons..	3.0	5.6	(S)	[2]10.0
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors:					
362110	Timing motors, synchronous and subsynchronous (under 1 hp):					
	Purchased	Thousands.....	(S)	6.6	2,597.2	8.0
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors (under 1 hp):					
	Purchased		**13,793.6	52.0	14,570.2	32.8
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased		(S)	(Z)	(D)	(D)
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
260091	Paper and paperboard containers	.....	(X)	52.4	(X)	30.2
320101	Glass and glass products	.....	(X)	25.4	(X)	[2]11.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	30.8	(X)	[2]18.0
349013	Wire racks, grills, springs, and other fabricated nonelectric wire products	.....	(X)	6.0	(X)	[2]5.0
354011	Dies, jigs, fixtures, punches, and cutting tools for machine tools	.....	(X)	8.6	(X)	[2]5.0
360101	Electric transmission, distribution, and control equipment	.....	(X)	17.2	(X)	([3])
364300	Current-carrying wiring devices	.....	(X)	12.9	(X)	[2]30.0
382201	Automatic temperature controls, thermostats, regulators, etc	.....	(X)	31.7	(X)	[2]12.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	12.3	(X)	[2]6.0
329300	Gaskets (all types) and asbestos packing	.....	(X)	.9	(X)	[2]1.0
306902	Fabricated rubber products, except tires, tubes, hoses, belting, and gaskets	.....	(X)	4.2	(X)	[2]3.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	70.3	(X)	[2]47.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Thousand lb....	*79.7	47.5	(X)	[2]34.0
339915	Metal powders	Thousand lb....	**8.5	4.4	(X)	([3])
335762	Complete flexible cord sets	.....	(X)	24.2	(X)	[2]16.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	343.4	(X)	[3]175.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	71.8	(X)	50.3

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972 – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3635, HOUSEHOLD VACUUM CLEANERS					
	Materials, parts, containers, and supplies	.....	(X)	250.1	(X)	167.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bar and bar shapes	1,000 s. tons..	(S)	2.0	2.2	.7
331012	Sheet and strip		27.6	11.8	33.8	8.3
331013	Plates		-	-	-	-
331015	Structural shapes		(D)	(D)	-	-
331017	Wire and wire products		(D)	(D)	(S)	1.1
331019	All other carbon steel mill shapes and forms		(S)	4.3	5.1	1.7
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(D)	(D)		
331029	All other alloy steel mill shapes and forms		(D)	(X)		
	Stainless steel:				1.2	1.1
331033	Sheet and strip		(D)	(D)		
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(D)	(X)		
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	(S)	(Z)	3.5	3.0
335793	Aluminum	Mil. lb (aluminum content).				
335770	Magnet wire	Million lb.....	3.3	3.4		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction)		(S)	.8	2.3	2.0
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		-	-		
335143	Plate, sheet, and strip, including military cups and discs		.5	.6	(S)	1.4
335152	Pipe and tube	Million lb.....	-	-		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.....	(D)	(D)	1.2	.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	3.0		
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(D)	(D)	(S)	2.8
346901	Metal stampings	1,000 s. tons..	(D)	(D)	(D)	(D)
387316	Timing mechanisms	Thousands.....	(D)	(D)	(D)	(D)
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons..	(D)	(D)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	*16.7	13.2	14.4	12.3
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
336910	Zinc and zinc-base alloy:					
	Purchased	1,000 s. tons..	.8	.8	(NA)	(8)
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors:					
362110	Timing motors, synchronous and subsynchronous (under 1 hp):					
	Purchased	Thousands.....	-	-	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors (under 1 hp):					
	Purchased		*2,915.6	11.7	1,534.3	6.8
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased		(S)	16.6	76.6	.8
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
260091	Paper and paperboard containers	.....	(X)	5.3	(X)	9.6
320101	Glass and glass products	.....	(X)	(D)		
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	4.6		
349013	Wire racks, grills, springs, and other fabricated nonelectric wire products	.....	(X)	2.0		
354011	Dies, jigs, fixtures, punches, and cutting tools for machine tools	.....	(X)	(D)		
360101	Electric transmission, distribution, and control equipment	.....	(X)	(D)		
364300	Current-carrying wiring devices	.....	(X)	4.1		
382201	Automatic temperature controls; thermostats, regulators, etc	.....	(X)	(D)		
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	1.2		
329300	Gaskets (all types) and asbestos packing	.....	(X)	1.1	(X)	8106.1
306902	Fabricated rubber products, except tires, tubes, hoses, belting, and gaskets	.....	(X)	(D)		
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	1.9		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Thousand lb....	28.4	18.1		
339915	Metal powders	Thousand lb....	(D)	(D)		
335762	Complete flexible cord sets	.....	(X)	(D)		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	118.6		
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	4.8	(X)	2.0
	INDUSTRY 3636, SEWING MACHINES					
	(Data withheld to avoid disclosing operations of individual companies)					

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3639, HOUSEHOLD APPLIANCES, N.E.C.					
	Materials, parts, containers, and supplies		(X)	640.2	(X)	346.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bar and bar shapes	1,000 s. tons	**1.8	1.3	(9)	(9)
331012	Sheet and strip		**422.1	147.8	292.8	55.0
331013	Plates					
331015	Structural shapes		3.1	1.5	[9]16.9	[9]5.6
331017	Wire and wire products		*8.6	3.1		
331019	All other carbon steel mill shapes and forms		(S)	6.2		
	Alloy steel, except stainless:					
331021	Bars and bar shapes					
331029	All other alloy steel mill shapes and forms					
	Stainless steel:		**9.7	9.6	12.1	15.2
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content)				
335793	Aluminum	Mil. lb (aluminum content)	(S)	5.1	1.3	2.2
335770	Magnet wire	Million lb				
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction)					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		2.8	2.2	.4	.5
335143	Plate, sheet, and strip, including military cups and discs					
335152	Pipe and tube		*3.0	3.7	3.2	3.0
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		4.1	3.3	2.2	1.4
335008	All other aluminum mill shapes and forms (wire, rolled rod, and bar, powder, welded tubing, etc.)	Million lb				
346901	Metal stampings	1,000 s. tons	(S)	12.4	10.0	6.3
387316	Timing mechanisms	Thousands	(D)	(D)	(D)	(D)
999808	Aluminum and aluminum-base alloy scrap, excluding home scrap	1,000 s. tons	-	-	-	-
	Castings (rough and semifinished):[2]					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	2.6	3.4	4.4	3.4
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	1.7	2.8	3.4	2.2
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
336910	Zinc and zinc-base alloy:					
	Purchased	1,000 s. tons	(D)	(D)	(10)	(10)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors:					
362110	Timing motors, synchronous and subsynchronous, under 1 hp:					
	Purchased	Thousands	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors, under 1 hp:					
	Purchased		*3,148.1	31.0	3,310.7	20.1
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators, 1 hp and over:					
	Purchased		(D)	(D)	5.4	.4
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
260091	Paper and paperboard containers		(X)	19.5	(X)	10.4
320101	Glass and glass products		(X)	6.7	(X)	[2]1.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	14.3	(X)	[2]13.0
349013	Wire racks, grills, springs, and other fabricated nonelectric wire products		(X)	1.1	(X)	[2]1.0
354011	Dies, jigs, fixtures, punches, and cutting tools for machine tools		(X)	(D)	(X)	[10]
360101	Electric transmission, distribution, and control equipment		(X)	.3	(X)	[10]
364300	Current-carrying wiring devices		(X)	17.6	(X)	[2]16.0
382201	Automatic temperature controls (thermostats, regulators, etc.)		(X)	67.6	(X)	[2]28.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	14.2	(X)	[2]8.0
329300	Gaskets (all types) and asbestos packing		(X)	3.0	(X)	[2]3.0
306902	Fabricated rubber products, except tires, tubes, hoses, belting, and gaskets		(X)	.8	(X)	[2]6.0
307903	Plastic products consumed in the form of sheets, rods, tubes, and other shapes		(X)	10.6	(X)	[2]5.0
282104	Plastics resins consumed in the form granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Thousand lb	(D)	(D)	(X)	[2]7.0
339915	Metal powders	Thousand lb	(D)	(D)	(X)	[10]
335762	Complete flexible cord sets		(X)	.9	(X)	[10]
970099	All other materials and components, parts, containers, and supplies		(X)	206.7	(X)	[10]76.5
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	22.4	(X)	47.3

Footnotes are on next page.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than $50,000 or less than half the unit of measure specified by quantities.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]For 1972, material code 360101 and 339915 were included with material code 970099.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1972, material codes 332045, 244021, 282104, 307903, 349402, 360101, 364300, and 382201 were included in material code 970099.

[6]For 1977 and 1972, material codes 331011, 331013, 331015, 331017, and 331019 were combined to avoid disclosing operations of individual companies.

[7]For 1972, material codes 320101, 354011, 360101, 364300, 329300, 282104, 339915, 335762, and 97100 were included in material code 970099.

[8]For 1972, material codes 336910, 320101, 345001, 349013, 354011, 360101, 364300, 382201, 285101, 329300, 306902, 307903, 282104, 339915, and 335762 were included in material code 970099.

[9]For 1972, material codes 331011, 331013, 331015, 331017, and 331019 were combined.

[10]For 1972, material codes 336910, 354011, 360101, 339915, and 335762 were included with material code 970099.

Electric Lighting and Wiring Equipment

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DESCRIPTION OF INDUSTRIES

ELECTRIC LIGHTING AND WIRING EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3641 Electric Lamps
3643 Current-Carrying Wiring Devices
3644 Noncurrent-Carrying Wiring Devices
3645 Residential Lighting Fixtures
3646 Commercial Lighting Fixtures
3647 Vehicular Lighting Equipment
3648 Lighting Equipment, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3641, ELECTRIC LAMPS

This industry comprises establishments primarily engaged in the manufacture of electric lamp bulbs.

The total value of shipments for establishments classified in the Electric Lamps industry amounted to $1,651 million in 1977, an increase of 51 percent from 1972. The value of shipments of products classified as primary to the industry was $1,630 million, an increase of 48 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,089 million in 1977, was 35 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.7 thousand employees, a decrease of 10 percent from 1972. The leading States in employment were Ohio, Pennsylvania, Massachusetts, and Kentucky, accounting for approximately 50 percent of the industry's 1977 employment. Data for Ohio and Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of electric lamp bulbs only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electric lamp bulbs are reported quarterly in the Census Bureau's Current Industrial Reports (CIR) MQ-36B, Electric Lamps. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3643, CURRENT-CARRYING WIRING DEVICES

This industry comprises establishments primarily engaged in the manufacture of such devices as electrical outlets, lamp sockets, connectors, receptacles, and snap switches. Establishments primarily engaged in the manufacture of noncurrent-carrying wiring devices are classified in industry 3644, and electric power wire and cable in industry 3357.

The total value of shipments for establishments classified in the Current-Carrying Wiring Devices industry amounted to $1,795 million in 1977, an increase of 43 percent from 1972. The value of shipments of products classified as primary to the industry was $1,825 million, an increase of 50 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,100 million in 1977, was 43 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for

changes in price levels.

In 1977 the industry had 43.9 thousand employees, a decrease of 9 percent from 1972. The leading States in employment were Illinois, New York, Connecticut, and Rhode Island, accounting for approximately 50 percent of the industry's 1977 employment. Data for Rhode Island have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of current-carrying wiring devices only at product class levels. This is the source of the data in table 6a described "as reported in census of manufactures." Detailed figures on the shipments of current-carrying wiring devices are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36K, Wiring Devices and Supplies. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3644, NONCURRENT-CARRYING WIRING DEVICES

This industry comprises establishments primarily engaged in the manufacture of noncurrent-carrying wiring devices. Establishments primarily engaged in the manufacture of current-carrying wiring devices are classified in industry 3643.

The total value of shipments for establishments classified in the Noncurrent-Carrying Wiring Devices industry amounted to $1,422 million in 1977, an increase of 60 percent from 1972. The value of shipments of products classified as primary to the industry was $1,316 million, an increase of 58 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $744 million in 1977, was 51 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.8 thousand employees, approximately the same as 1972. The leading States in employment were Illinois, New York, Ohio, and Pennsylvania, accounting for approximately 50 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of noncurrent-carrying wiring devices only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of noncurrent-carrying wiring devices are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36K, Wiring Devices and Supplies. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3645, RESIDENTIAL LIGHTING FIXTURES

This industry comprises establishments primarily engaged in the manufacture of residential lighting fixtures. Establishments primarily engaged in the manufacture of commercial and industrial lighting fixtures are classified in industry 3646, vehicular lighting equipment in industry 3647, and lamp bulbs in industry 3641.

The total value of shipments for establishments classified in the Residential Lighting Fixtures industry amounted to $987 million in 1977, an increase of 29 percent from 1972. The value of shipments of products classified as primary to the industry was $975 million, an increase of 31 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were incandescent ceiling or pendant lighting fixtures, for which shipments increased 58 percent. Value added by manufacture, at $494 million in 1977, was 27 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are not therefore adjusted for changes in price levels.

In 1977 the industry had 23.7 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were New York, Pennsylvania, Illinois, and Ohio, accounting for approximately 50 percent of the industry's 1977 employment. Data for Ohio have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of residential lighting fixtures only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of residential lighting fixtures are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36L Electric Lighting Fixtures. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 11 percent of total value of shipments.

INDUSTRY 3646, COMMERCIAL LIGHTING FIXTURES

This industry comprises establishments primarily engaged in the manufacture of commercial lighting fixtures. Establishments

primarily engaged in the manufacture of residential lighting fixtures are classified in industry 3645.

The total value of shipments for establishments classified in the Commercial Lighting Fixtures industry amounted to $923 million in 1977, an increase of 28 percent from 1972. The value of shipments of products classified as primary to the industry was $935 million, an increase of 33 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $435 million in 1977, was 24 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.6 thousand employees, a decrease of 17 percent from 1972. The leading States in employment were California, Georgia, New York, and New Jersey, accounting for approximately 40 percent of the industry's 1977 employment. Data for Georgia have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of commercial lighting fixtures only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of commercial lighting fixtures are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36L, Electric Lighting Fixtures. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3647, VEHICULAR LIGHTING EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of vehicular lighting equipment.

The total value of shipments for establishments classified in the Vehicular Lighting Equipment industry amounted to $909 million in 1977, an increase of 82 percent from 1972. The value of shipments of products classified as primary to the industry was $646 million, an increase of 80 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $536 million in 1977, was 79 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 14.5 thousand employees, an increase of 6 percent from 1972. The leading States in employment were Indiana, Ohio, New York, and Illinois, accounting for approximately 75 percent of the industry's 1977 employment. Data for Indiana, Ohio, and Illinois have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of vehicular lighting equipment only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of vehicular lighting equipment are reported annually in the Census Bureau's Current Industrial Report (CIR) MA-36L, Electric Lighting Fixtures.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3648, LIGHTING EQUIPMENT, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of outdoor lighting equipment, flashlights and lanterns, and miscellaneous lighting equipment, not elsewhere classified.

The total value of shipments for establishments classified in the Lighting Equipment, N.E.C. industry amounted to $671 million in 1977, an increase of 38 percent from 1972. The value of shipments of products classified as primary to the industry was $675 million, an increase of 41 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $343 million in 1977, was 35 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.8 thousand employees, an increase of 1 percent from 1972. The leading States in employment were California, Ohio, Massachusetts, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3641, ELECTRIC LAMPS																
1977 Census--	128	167	64	28.7	322.4	25.3	47.5	266.3	1 089.2	574.9	1 651.4	36.6	(NA)	121.4	97	98
1976 ASM----	(NA)	(NA)	(NA)	28.4	288.3	25.0	47.7	237.8	979.2	503.6	1 477.9	35.6	547.1	99.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	26.7	241.6	23.4	43.2	195.1	819.2	399.2	1 211.7	34.7	517.4	91.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	30.4	247.7	27.2	49.0	201.7	802.6	379.9	1 187.7	44.5	489.1	83.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	30.9	249.2	27.4	54.5	204.9	774.0	374.4	1 141.3	32.1	441.2	88.8	(NA)	(NA)
1972 Census--	102	143	72	31.5	239.7	27.1	52.2	185.7	724.4	366.3	1 095.7	31.1	448.4	110.1	95	96
1971 ASM----	(NA)	(NA)	(NA)	30.5	216.9	26.3	50.5	169.4	648.5	317.4	961.9	33.7	425.5	111.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	32.5	216.2	28.2	52.7	170.9	591.2	311.1	891.6	32.0	405.0	106.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	31.8	192.8	27.7	51.1	151.2	549.9	294.6	842.5	31.3	316.0	96.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	31.1	188.4	27.1	52.9	149.7	585.6	283.3	863.9	37.9	300.6	91.4	(NA)	(NA)
1967 Census--	72	106	65	29.5	169.9	25.8	49.9	136.0	533.4	252.6	781.8	48.2	272.2	83.7	94	95
1966 ASM----	(NA)	(NA)	(NA)	27.7	160.1	24.3	48.2	129.4	494.8	250.2	742.0	24.1	(NA)	81.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	25.8	144.3	22.5	44.4	117.0	443.3	233.3	672.9	30.1	(NA)	76.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	24.2	131.6	21.0	41.3	105.1	407.7	209.5	615.4	18.1	157.3	69.6	(NA)	(NA)
1963 Census--	54	81	50	23.4	122.7	20.5	40.3	99.5	362.2	207.0	574.5	17.0	144.1	63.7	95	96
INDUSTRY 3643, CURRENT-CARRYING WIRING DEVICES																
1977 Census--	362	413	198	43.9	480.3	33.6	66.2	312.1	1 100.1	738.7	1 795.2	55.8	(NA)	341.5	84	79
1976 ASM----	(NA)	(NA)	(NA)	43.8	432.2	33.0	63.7	274.5	1 044.6	668.5	1 681.8	37.6	432.3	330.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	37.0	344.2	26.6	49.3	201.5	727.4	498.2	1 247.3	34.5	412.9	284.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	55.0	470.6	41.2	79.4	291.4	1 088.3	730.9	1 777.3	64.8	451.5	393.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	51.9	406.3	40.7	80.1	266.2	881.7	594.4	1 443.4	47.1	386.5	307.6	(NA)	(NA)
1972 Census--	366	401	210	50.4	382.5	39.0	76.2	244.6	792.1	492.0	1 255.9	53.7	353.1	257.2	83	81
1971 ASM----	(NA)	(NA)	(NA)	39.8	286.1	30.0	57.7	183.5	613.7	377.1	986.7	27.8	285.9	219.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	44.1	292.8	33.8	65.6	193.6	609.3	408.5	1 008.8	28.7	285.5	213.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	43.7	280.4	34.3	67.7	186.4	632.3	389.3	1 008.2	28.0	247.4	197.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	42.2	257.9	32.9	64.8	168.8	546.9	365.2	910.9	26.8	242.5	170.1	(NA)	(NA)
1967 Census--	351	375	185	40.1	234.4	30.5	60.1	151.3	507.4	330.0	837.0	29.8	231.5	162.5	78	78
1966 ASM----	(NA)	(NA)	(NA)	39.4	218.0	31.3	60.8	145.5	497.6	339.9	811.3	34.2	(NA)	152.4	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	36.8	194.7	28.7	56.5	129.2	432.8	295.9	708.2	25.9	(NA)	130.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	35.9	183.9	27.2	53.2	118.7	401.4	280.9	673.2	16.8	150.9	133.7	(NA)	(NA)
1963 Census--	431	449	180	35.4	175.2	27.2	53.5	115.1	355.6	257.2	661.0	14.1	141.5	99.5	80	83
INDUSTRY 3644, NONCURRENT-CARRYING WIRING DEVICES																
1977 Census--	173	202	123	25.8	330.1	18.4	35.9	210.9	744.4	682.4	1 421.8	32.8	(NA)	350.5	82	83
1976 ASM----	(NA)	(NA)	(NA)	24.4	290.5	17.1	32.9	182.7	639.0	618.4	1 239.9	25.2	409.8	329.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	23.8	271.5	16.8	32.0	175.3	588.5	550.6	1 152.8	39.9	400.4	306.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	26.5	276.6	19.8	38.3	185.4	676.1	542.1	1 158.2	35.6	332.5	318.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	27.3	254.4	20.6	40.8	175.2	555.6	484.8	1 026.9	36.4	317.0	223.7	(NA)	(NA)
1972 Census--	149	179	117	25.7	217.0	19.3	37.7	147.0	490.8	400.8	886.4	25.2	271.1	186.8	78	78
1971 ASM----	(NA)	(NA)	(NA)	23.8	186.9	17.4	34.0	122.2	434.7	338.3	772.0	26.7	245.6	167.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	26.5	211.5	19.4	38.8	131.5	457.0	349.7	790.5	28.2	250.0	184.3	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	27.8	210.9	20.1	40.1	132.4	468.3	360.1	812.1	29.8	237.2	171.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	24.1	178.5	17.6	36.5	116.8	406.0	307.6	709.5	22.4	208.4	150.3	(NA)	(NA)
1967 Census--	158	174	105	22.9	158.1	16.8	33.5	102.0	344.7	297.4	637.9	20.2	197.9	134.6	74	82
1966 ASM----	(NA)	(NA)	(NA)	24.3	170.6	18.1	37.2	114.0	360.3	311.5	673.9	20.9	(NA)	139.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	21.5	143.2	16.0	33.2	95.8	326.2	285.8	591.8	15.7	(NA)	136.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	20.6	132.1	15.4	31.4	87.5	291.0	240.6	620.2	10.3	154.7	110.5	(NA)	(NA)
1963 Census--	168	182	103	20.3	123.6	14.8	29.7	79.6	253.9	226.5	479.0	7.9	145.4	101.5	77	80
INDUSTRY 3645, RESIDENTIAL LIGHTING FIXTURES[3]																
1977 Census--	676	710	244	23.7	229.5	18.2	33.4	139.4	494.2	495.6	986.6	11.8	(NA)	193.2	95	92
1976 ASM----	(NA)	(NA)	(NA)	21.4	206.8	16.7	30.6	128.6	428.5	428.9	843.0	14.4	111.5	161.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	18.5	172.8	14.1	26.4	103.2	332.3	352.6	688.5	15.0	107.0	134.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	21.6	183.1	16.7	30.9	109.6	374.0	369.6	747.2	19.5	95.3	144.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	28.0	204.8	22.3	42.2	132.2	415.2	422.1	829.6	12.2	146.4	158.3	(NA)	(NA)
1972 Census--	665	701	278	26.5	189.3	21.0	40.6	120.7	390.2	386.5	767.2	13.7	140.6	137.7	97	93

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3646, COMMERCIAL LIGHTING FIXTURES[3]																
1977 Census--	192	218	122	15.6	169.1	11.1	20.6	98.8	434.7	498.4	922.7	18.0	(NA)	182.3	90	86
1976 ASM----	(NA)	(NA)	(NA)	15.4	154.2	11.5	21.5	91.9	391.8	435.2	818.8	13.4	160.4	159.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	15.7	148.3	11.3	21.3	90.8	347.2	411.4	765.4	11.8	163.2	151.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	18.9	161.4	14.2	27.4	101.6	389.9	452.1	828.0	21.7	154.1	175.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	20.1	167.9	15.5	29.4	105.3	357.0	425.4	775.4	26.5	160.3	150.2	(NA)	(NA)
1972 Census--	205	236	140	18.8	148.3	14.0	27.0	93.2	350.4	374.8	718.7	13.7	143.3	127.5	90	91
INDUSTRY 3647, VEHICULAR LIGHTING EQUIPMENT[3]																
1977 Census--	70	75	43	14.5	246.0	11.4	23.3	178.8	536.0	388.9	908.5	46.3	(NA)	97.1	68	94
1976 ASM----	(NA)	(NA)	(NA)	14.4	211.9	11.2	22.5	151.3	453.5	330.3	771.1	21.4	292.9	91.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	12.8	168.6	9.9	19.2	119.2	333.1	247.6	590.6	15.2	316.6	69.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	14.7	175.1	11.5	22.7	125.1	326.0	277.2	598.0	46.6	288.1	82.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	14.5	171.8	11.5	23.9	124.3	331.2	257.8	577.4	33.7	219.9	69.4	(NA)	(NA)
1972 Census--	45	47	31	13.6	142.1	10.7	21.5	101.9	299.8	205.2	499.8	7.2	188.2	50.3	68	94
INDUSTRY 3648, LIGHTING EQUIPMENT, N.E.C.[3]																
1977 Census--	208	223	119	12.8	148.0	9.1	17.7	85.7	342.5	332.7	670.6	15.8	(NA)	128.5	85	81
1976 ASM----	(NA)	(NA)	(NA)	11.4	116.6	8.4	15.8	69.0	267.7	243.6	510.0	14.4	151.0	95.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	10.6	103.0	7.4	14.1	59.7	244.4	224.8	475.4	11.6	149.1	91.1	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	12.5	112.4	8.9	17.4	67.3	289.7	251.4	538.1	19.3	150.2	102.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	13.0	112.2	9.5	18.8	68.0	284.9	241.0	521.1	18.9	150.0	98.9	(NA)	(NA)
1972 Census--	172	190	95	12.7	107.9	9.2	18.4	63.1	254.3	219.4	466.5	16.6	147.8	85.5	86	79

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3641, ELECTRIC LAMPS											
1977 Census--	11 250	(NA)	88	1 879	5.61	34	54	(NA)	38 010	29	22.95
1976 ASM----	10 151	19 264	88	1 908	4.98	34	53	37	34 478	29	20.52
1975 ASM----	9 048	19 378	87	1 846	4.51	32	52	42	30 681	29	18.96
1974 ASM----	8 148	16 088	89	1 801	4.11	31	52	41	26 401	30	16.37
1973 ASM----	8 064	14 278	88	1 989	3.75	32	54	38	25 048	32	14.20
1972 Census--	7 609	14 234	86	1 926	3.55	33	55	40	22 996	33	13.87
1971 ASM----	7 111	13 950	86	1 920	3.35	32	55	44	21 262	33	12.84
1970 ASM----	6 652	12 461	86	1 868	3.24	34	59	45	18 190	36	11.21
1969 ASM----	6 062	9 937	87	1 844	2.95	34	57	37	17 292	35	10.76
1968 ASM----	6 057	9 665	87	1 952	2.82	32	54	34	18 829	32	11.06
1967 Census--	5 759	9 227	87	1 934	2.72	32	54	34	18 081	31	10.68
1966 ASM----	5 779	(NA)	87	1 983	2.68	33	55	(NA)	17 862	32	10.26
1965 ASM----	5 593	(NA)	87	1 973	2.63	34	56	(NA)	17 182	32	9.98
1964 ASM----	5 438	6 500	86	1 966	2.54	34	55	25	16 847	32	9.87
1963 Census--	5 243	6 158	87	1 965	2.46	36	57	25	15 478	33	8.98
INDUSTRY 3643, CURRENT-CARRYING WIRING DEVICES											
1977 Census--	10 951	(NA)	76	1 974	4.71	41	67	(NA)	25 083	43	16.60
1976 ASM----	9 867	9 869	75	1 930	4.30	39	65	25	23 849	41	16.39
1975 ASM----	9 302	11 159	71	1 853	4.08	39	67	33	19 659	47	14.75
1974 ASM----	8 556	8 209	74	1 927	3.67	41	67	25	19 787	43	13.70
1973 ASM----	7 828	7 447	78	1 968	3.32	41	69	26	16 988	46	11.00
1972 Census--	7 589	7 006	77	1 954	3.24	39	70	28	15 716	48	10.40
1971 ASM----	7 188	7 183	75	1 923	3.18	38	67	28	15 419	46	10.63
1970 ASM----	6 639	6 473	76	1 940	2.95	40	69	28	13 816	48	9.28
1969 ASM----	6 416	5 661	78	1 973	2.75	38	66	24	14 469	44	9.33
1968 ASM----	6 111	5 746	77	1 969	2.60	40	68	26	12 959	47	8.43
1967 Census--	5 845	5 773	76	1 970	2.51	39	67	27	12 653	46	8.44
1966 ASM----	5 532	(NA)	79	1 942	2.39	41	68	(NA)	12 629	43	8.18
1965 ASM----	5 290	(NA)	77	1 968	2.28	41	69	(NA)	11 760	44	7.66
1964 ASM----	5 122	4 203	75	1 955	2.23	41	69	22	11 181	45	7.54
1963 Census--	4 949	3 997	76	1 966	2.15	39	65	21	10 045	49	6.64
INDUSTRY 3644, NONCURRENT-CARRYING WIRING DEVICES											
1977 Census--	12 777	(NA)	71	1 946	5.87	47	71	(NA)	28 811	44	20.73
1976 ASM----	11 905	16 795	70	1 923	5.55	49	73	33	26 188	45	19.42
1975 ASM----	11 407	16 823	70	1 904	5.47	47	71	34	24 726	46	18.39
1974 ASM----	10 437	12 547	74	1 934	4.84	46	70	28	25 513	40	17.65
1973 ASM----	9 318	11 611	75	1 980	4.29	47	71	30	20 351	45	13.61
1972 Census--	8 443	10 548	75	1 953	3.89	45	69	30	19 097	44	13.01
1971 ASM----	7 852	10 319	73	1 954	3.59	43	68	31	18 264	42	12.78
1970 ASM----	7 981	9 433	73	2 000	3.38	44	70	31	17 245	46	11.77
1969 ASM----	7 586	8 532	72	1 995	3.30	44	70	29	16 845	45	11.67
1968 ASM----	7 406	8 647	73	2 073	3.20	43	68	29	16 846	43	11.12
1967 Census--	6 903	8 641	73	1 994	3.04	46	71	31	15 052	45	10.28
1966 ASM----	7 020	(NA)	74	2 055	3.06	46	71	(NA)	14 827	47	9.68
1965 ASM----	6 660	(NA)	74	2 075	2.88	48	72	(NA)	15 172	43	9.82
1964 ASM----	6 412	7 509	74	2 038	2.78	39	60	25	14 126	45	9.26
1963 Census--	6 088	7 162	72	2 006	2.68	47	73	30	12 507	48	8.54
INDUSTRY 3645, RESIDENTIAL LIGHTING FIXTURES											
1977 Census--	9 666	(NA)	76	1 829	4.17	50	73	(NA)	20 819	46	14.81
1976 ASM----	9 663	5 210	78	1 832	4.20	50	75	13	20 023	48	14.00
1975 ASM----	9 340	5 783	76	1 872	3.90	51	76	15	17 962	52	12.58
1974 ASM----	8 476	4 412	77	1 850	3.54	49	73	12	17 314	48	12.10
1973 ASM----	7 314	5 228	79	1 892	3.13	50	75	17	14 828	49	9.83
1972 Census--	7 143	5 305	79	1 933	2.97	50	75	18	14 724	48	9.61

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3646, COMMERCIAL LIGHTING FIXTURES										
1977 Census--	10 875	(NA)	71	1 852	4.78	54	72	(NA)	27 955	38	21.06
1976 ASM----	10 012	10 415	74	1 869	4.27	53	71	19	25 441	39	18.22
1975 ASM----	9 445	10 394	71	1 884	4.26	53	73	21	22 114	42	16.30
1974 ASM----	8 539	8 153	75	1 929	3.70	54	74	18	20 629	41	14.22
1973 ASM----	8 353	7 975	77	1 896	3.58	54	76	20	17 761	47	12.14
1972 Census--	7 888	7 622	74	1 928	3.45	52	72	19	18 638	42	12.97
	INDUSTRY 3647, VEHICULAR LIGHTING EQUIPMENT										
1977 Census--	16 927	(NA)	78	2 042	7.67	42	69	(NA)	36 879	45	23.01
1976 ASM----	14 715	20 340	77	2 008	6.72	42	70	37	31 493	46	20.15
1975 ASM----	13 171	24 734	77	1 939	6.20	41	70	53	26 023	50	17.34
1974 ASM----	11 911	19 598	78	1 973	5.51	46	75	48	22 176	53	14.36
1973 ASM----	11 848	15 165	79	2 078	5.20	44	74	38	22 841	51	13.85
1972 Census--	10 448	13 838	78	2 009	4.73	41	69	37	22 044	47	13.94
	INDUSTRY 3648, LIGHTING EQUIPMENT, N.E.C.										
1977 Census--	11 571	(NA)	71	1 941	4.83	49	71	(NA)	26 783	43	19.33
1976 ASM----	10 228	13 245	73	1 880	4.36	47	70	29	23 482	43	16.94
1975 ASM----	9 716	14 066	69	1 905	4.23	47	68	31	23 056	42	17.33
1974 ASM----	8 992	12 016	71	1 955	3.86	46	67	27	23 176	38	16.64
1973 ASM----	8 630	11 538	73	1 978	3.61	46	67	28	21 915	39	15.15
1972 Census--	8 496	11 637	72	2 000	3.42	47	70	31	20 023	42	13.82

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3641, ELECTRIC LAMPS														
United States	-	**167**	**64**	**28.7**	**322.4**	**25.3**	**47.5**	**266.3**	**1 089.2**	**574.9**	**1 651.4**	**36.6**	**31.5**	**724.4**
New England Division:														
New Hampshire	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	10	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	17	2	0.6	6.5	0.6	1.0	5.0	24.2	11.1	35.0	(D)	1.0	14.5
New Jersey	-	16	6	1.7	18.1	1.5	2.9	14.6	47.0	27.7	68.7	2.0	(NA)	(D)
Pennsylvania	-	22	10	3.5	38.6	3.2	6.1	32.9	120.6	64.0	187.6	1.4	(NA)	(D)
East North Central Division:														
Ohio	-	12	11	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	13	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Missouri	-	4	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	4	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	6	5	2.5	27.5	2.1	4.1	22.0	95.2	51.5	146.0	4.1	(NA)	(D)
Tennessee	-	3	3	2.0	19.5	1.7	3.1	15.9	72.5	26.9	99.7	2.0	(NA)	(D)
Alabama	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E3	19	2	0.4	3.7	0.3	0.5	2.4	9.6	4.1	13.8	0.3	(NA)	(D)
INDUSTRY 3643, CURRENT-CARRYING WIRING DEVICES														
United States	-	**413**	**198**	**43.9**	**480.3**	**33.6**	**66.2**	**312.1**	**1 100.1**	**738.7**	**1 795.2**	**55.8**	**50.4**	**792.1**
New England Division:														
Maine	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Hampshire	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	19	12	1.9	21.3	1.5	3.2	14.1	50.4	30.6	79.8	1.8	2.9	50.0
Rhode Island	-	9	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	17	11	3.5	44.2	2.4	4.9	27.7	92.3	48.8	141.3	1.8	6.2	112.8
Middle Atlantic Division:														
New York	-	47	17	6.9	74.2	5.4	10.9	48.8	166.4	142.2	292.1	7.6	6.8	97.5
New Jersey	-	32	16	2.7	26.8	2.1	4.0	18.2	51.1	34.9	85.6	2.0	3.6	39.3
Pennsylvania	-	31	19	3.0	32.3	2.4	4.8	22.6	78.7	66.9	143.5	2.3	4.4	75.9
East North Central Division:														
Ohio	-	25	18	2.6	29.7	2.0	3.9	20.0	71.1	43.7	110.1	4.7	2.8	45.3
Indiana	-	18	11	1.8	16.9	1.4	2.6	11.5	41.2	33.9	75.0	(D)	1.6	21.4
Illinois	-	39	19	8.2	96.3	5.9	12.2	56.3	212.9	116.9	324.0	13.3	6.6	112.3
Michigan	E3	7	4	0.3	3.1	0.3	0.5	2.4	10.1	9.4	19.2	0.3	(NA)	(D)
West North Central Division:														
Minnesota	E7	9	2	0.2	2.1	0.1	0.2	1.2	6.0	3.1	8.8	0.1	0.3	3.4
Missouri	-	16	8	1.9	21.7	1.4	2.5	13.0	65.4	36.1	100.7	3.5	(NA)	(D)
South Atlantic Division:														
North Carolina	-	11	7	2.1	18.8	1.8	3.4	13.9	38.7	21.5	61.0	1.7	2.7	35.0
Georgia	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	13	5	1.2	12.4	0.8	1.7	8.0	31.4	17.0	47.4	1.4	0.6	12.2
East South Central Division:														
Alabama	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	E1	13	2	0.3	3.2	0.2	0.4	2.0	12.6	5.3	17.9	0.3	(NA)	(D)
Pacific Division:														
California	E1	64	18	1.7	19.1	1.3	2.6	11.6	42.6	23.1	63.9	4.3	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3644, NONCURRENT-CARRYING WIRING DEVICES														
United States	-	**202**	**123**	**25.8**	**330.1**	**18.4**	**35.9**	**210.9**	**744.4**	**682.4**	**1 421.8**	**32.8**	**25.7**	**490.8**
New England Division:														
Massachusetts	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	9	4	1.6	19.6	1.3	2.7	13.4	48.3	27.2	73.0	1.7	1.3	22.0
Middle Atlantic Division:														
New York	-	16	11	4.2	54.9	2.7	5.2	37.7	125.9	59.0	181.2	4.7	4.6	81.3
New Jersey	-	9	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	22	16	2.0	23.5	1.6	3.0	17.1	48.8	63.5	112.4	1.7	(NA)	(D)
East North Central Division:														
Ohio	-	17	14	2.2	25.9	1.5	2.7	15.8	49.8	41.9	93.8	2.3	2.2	27.5
Indiana	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	23	17	4.7	62.3	3.4	6.7	38.7	139.7	127.8	268.7	5.0	4.3	91.7
Michigan	-	6	4	0.3	4.7	0.2	0.4	3.2	12.0	28.0	38.7	(D)	(NA)	(D)
Wisconsin	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
West Virginia	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	4	3	0.5	6.1	0.4	0.7	4.3	17.3	14.7	32.1	(D)	0.6	10.4
Alabama	-	11	5	0.3	3.4	0.2	0.4	2.1	7.8	9.0	17.3	(D)	(NA)	(D)
Mississippi	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	25	13	1.5	18.1	1.1	2.3	12.6	55.3	53.3	108.9	1.0	(NA)	(D)
INDUSTRY 3645, RESIDENTIAL LIGHTING FIXTURES														
United States	**E1**	**710**	**244**	**23.7**	**229.5**	**18.2**	**33.4**	**139.4**	**494.2**	**495.6**	**986.6**	**11.8**	**26.5**	**390.2**
New England Division:														
Massachusetts	E3	16	5	0.7	7.0	0.5	0.9	4.5	16.3	15.9	31.7	(D)	0.7	9.8
Rhode Island	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	E1	15	7	0.4	3.3	0.4	0.7	2.7	8.5	9.4	17.6	0.5	0.2	2.7
Middle Atlantic Division:														
New York	E1	157	51	3.8	37.0	2.9	5.5	22.2	83.7	86.2	170.1	2.2	4.2	66.1
New Jersey	E1	48	22	2.1	20.6	1.6	2.9	12.1	38.6	36.8	76.6	0.7	2.8	37.7
Pennsylvania	-	62	24	3.8	39.5	2.6	4.4	18.9	81.9	80.2	162.3	1.8	4.2	73.6
East North Central Division:														
Ohio	-	22	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	E1	61	28	2.4	26.7	2.0	3.7	17.4	50.1	50.6	101.4	0.7	3.4	48.7
Wisconsin	-	6	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.7	7.8
West North Central Division:														
Missouri	-	8	2	0.3	2.8	0.2	0.4	1.8	7.0	4.4	11.4	0.1	0.4	5.3
South Atlantic Division:														
North Carolina	-	12	2	0.5	3.9	0.3	0.7	2.2	6.1	8.1	14.4	(D)	(NA)	(D)
Georgia	-	10	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.1
Florida	E2	33	5	0.4	2.9	0.3	0.6	2.0	7.3	7.4	14.5	0.1	(NA)	(D)
East South Central Division:														
Kentucky	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	8	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	12	3	0.4	3.3	0.3	0.6	2.6	9.5	6.3	14.8	(Z)	(NA)	(D)
Texas	-	18	5	0.5	4.2	0.4	0.7	2.5	9.7	13.1	22.6	0.3	(NA)	(D)
Pacific Division:														
California	E1	145	52	4.4	40.7	3.6	6.6	25.9	94.0	85.0	178.8	2.0	3.9	62.4

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3646, COMMERCIAL LIGHTING FIXTURES														
United States	-	**218**	**122**	**15.6**	**169.1**	**11.1**	**20.6**	**98.8**	**434.7**	**498.4**	**922.7**	**18.0**	**18.8**	**350.4**
New England Division:														
Massachusetts	-	8	6	0.4	5.3	0.3	0.6	2.9	13.6	13.6	26.0	0.2	(NA)	(D)
Middle Atlantic Division:														
New York	E2	31	18	1.5	16.8	1.2	2.1	10.1	38.6	34.8	72.8	1.0	(NA)	(D)
New Jersey	-	16	8	1.4	15.0	1.1	1.7	10.4	44.7	37.0	80.9	(D)	(NA)	(D)
Pennsylvania	-	18	8	1.3	12.9	1.0	1.8	8.3	30.1	62.9	93.5	1.6	(NA)	(D)
East North Central Division:														
Ohio	-	15	9	1.2	13.3	0.8	1.5	7.7	36.8	39.8	76.6	(D)	1.2	39.0
Indiana	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	22	11	1.3	15.9	0.8	1.4	6.9	53.2	35.5	88.4	2.0	1.3	25.5
Michigan	-	5	3	0.2	1.9	0.2	0.3	1.4	5.2	1.9	7.1	(D)	(NA)	(NA)
West North Central Division:														
Missouri	-	6	4	0.4	3.3	0.3	0.5	2.3	7.5	8.8	16.2	0.1	(NA)	(D)
South Atlantic Division:														
North Carolina	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	5	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	7	5	0.4	4.0	0.2	0.5	2.1	8.9	14.0	23.7	0.3	0.6	7.7
Pacific Division:														
Washington	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	40	21	2.1	24.7	1.5	2.8	14.6	50.9	49.0	97.6	1.0	(NA)	(D)
INDUSTRY 3647, VEHICULAR LIGHTING EQUIPMENT														
United States	-	**75**	**43**	**14.5**	**246.0**	**11.4**	**23.3**	**178.8**	**536.0**	**388.9**	**908.5**	**46.3**	**13.6**	**299.8**
Middle Atlantic Division:														
New York	-	7	4	1.0	11.5	0.8	1.4	7.3	26.1	20.3	45.7	(D)	(NA)	(D)
New Jersey	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	6	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	11	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	-	4	3	0.3	2.7	0.2	0.4	1.8	5.3	4.1	9.1	(D)	(NA)	(D)
West North Central Division:														
Missouri	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	13	4	0.2	1.8	0.2	0.3	1.1	4.9	3.7	8.8	0.1	(NA)	(D)
INDUSTRY 3648, LIGHTING EQUIPMENT, N.E.C.														
United States	-	**223**	**119**	**12.8**	**148.0**	**9.1**	**17.7**	**85.7**	**342.5**	**332.7**	**670.6**	**15.8**	**12.7**	**254.3**
New England Division:														
Vermont	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	15	9	1.1	11.3	0.8	1.5	6.7	22.9	24.3	46.2	0.3	1.1	18.6
Connecticut	E1	5	5	0.4	5.5	0.2	0.4	2.6	13.2	11.0	23.4	0.5	(NA)	(D)
Middle Atlantic Division:														
New York	E1	27	11	0.6	7.3	0.5	0.8	4.5	18.7	21.7	40.6	(D)	0.6	12.8
New Jersey	-	14	8	0.9	10.1	0.6	1.2	5.2	22.4	22.5	45.4	0.7	1.5	29.7
Pennsylvania	-	14	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	5.8
East North Central Division:														
Ohio	-	14	9	1.1	14.5	0.8	1.6	9.4	25.7	23.4	50.5	0.8	1.4	26.9
Illinois	E2	25	14	1.0	11.7	0.7	1.3	6.6	30.1	29.9	60.3	1.3	(NA)	(D)
Wisconsin	-	7	3	0.5	5.7	0.4	0.7	2.7	7.0	16.3	23.4	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Mississippi	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Oklahoma	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	8	6	0.6	7.7	0.4	0.8	3.6	22.1	16.7	38.3	0.8	(NA)	(D)
Pacific Division:														
California	-	41	24	1.9	22.6	1.3	2.4	12.5	48.1	41.0	87.8	1.4	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Electric lamps (SIC 3641)	Current-carrying wiring devices (SIC 3643)	Noncurrent-carrying wiring devices (SIC 3644)	Residential lighting fixtures (SIC 3645)	Commercial lighting fixtures (SIC 3646)	Vehicular lighting equipment (SIC 3647)	Lighting equipment, n.e.c. (SIC 3648)
Primary product specialization ratio[1]	percent	97	84	82	95	90	68	85
Coverage ratio[2]	do	98	79	83	92	86	94	81
All establishments	number	167	413	202	710	218	75	223
With 1 to 19 employees	do	103	215	79	466	96	32	104
With 20 to 99 employees	do	17	96	63	188	82	24	81
With 100 employees or more	do	47	102	60	56	40	19	38
All employees, average for year	1,000	28.7	43.9	25.8	23.7	15.6	14.5	12.8
Payroll for year, all employees	mil. dol.	322.4	480.3	330.1	229.5	169.1	246.0	148.0
Production workers:								
Average for year	1,000	25.3	33.6	18.4	18.2	11.1	11.4	9.1
March	do	25.0	32.7	18.2	17.8	10.8	11.1	9.0
May	do	25.1	33.8	18.4	17.8	10.8	11.3	9.5
August	do	25.4	34.3	18.4	18.2	11.4	11.2	9.2
November	do	25.5	33.4	18.8	19.2	11.6	12.0	9.4
Hours	millions	47.5	66.2	35.9	33.4	20.6	23.3	17.7
January to March	do	11.7	16.1	8.7	7.8	5.1	5.7	4.4
April to June	do	12.6	16.9	9.1	8.3	5.1	5.9	4.3
July to September	do	10.9	16.3	8.7	8.3	5.1	5.9	4.4
October to December	do	12.2	16.9	9.3	9.0	5.3	5.9	4.6
Wages	mil. dol.	266.3	312.1	210.9	139.4	98.8	178.8	85.7
Cost of materials, etc.	do	574.9	738.7	682.4	495.6	498.4	388.9	332.7
Materials, parts, containers, etc., consumed	do	539.3	654.7	598.1	445.6	470.6	367.6	300.5
Resales	do	11.4	33.9	55.6	32.1	12.8	5.8	16.8
Fuels consumed	do	9.0	5.6	9.7	5.8	4.4	4.0	3.1
Purchased electric energy	do	13.8	15.7	14.6	6.1	4.8	8.3	5.0
Contract work	do	1.4	28.9	4.3	6.0	5.9	3.1	7.4
Value of shipments, including resales	do	1 651.4	1 795.2	1 421.8	986.6	922.7	908.5	670.6
Value of resales	do	16.8	44.4	83.4	44.5	18.1	6.8	20.5
Value added by manufacture	do	1 089.2	1 100.1	744.4	494.2	434.7	536.0	342.5
Manufacturers' inventories:								
Beginning of year	do	104.3	284.7	335.3	183.1	162.5	78.2	118.7
Finished products	do	61.2	86.5	137.5	66.4	51.3	15.8	29.8
Work in process	do	7.9	107.8	74.2	37.4	38.4	36.6	33.7
Materials, supplies, fuel, etc.	do	35.2	90.5	123.7	79.3	72.7	25.8	55.3
End of year	do	121.4	341.5	350.5	193.2	182.3	97.1	128.5
Finished products	do	73.1	100.6	139.5	68.3	57.0	19.3	30.3
Work in process	do	8.7	137.3	77.3	38.7	43.3	49.4	37.8
Materials, supplies, fuel, etc.	do	39.6	103.6	133.7	86.2	82.0	28.4	60.4
Capital expenditures for plant and equipment	do	43.4	58.4	35.6	14.1	18.8	47.4	17.8
New capital expenditures	do	36.6	55.8	32.8	11.8	18.0	46.3	15.8
New buildings and other structures	do	5.9	10.3	9.4	2.6	3.5	2.5	2.8
New machinery and equipment	do	30.7	45.5	23.4	9.2	14.6	43.8	13.0
Used capital expenditures	do	6.8	2.6	2.8	2.3	0.8	1.2	2.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Electric lamps (SIC 3641)		Current-carrying wiring devices (SIC 3643)		Noncurrent-carrying wiring devices (SIC 3644)		Residential lighting fixtures (SIC 3645)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	3.3	1	2.5	4	3.9	6	1.1	13
Response coverage ratio[2] (percent)	62	(X)	67	(X)	56	(X)	79	(X)
Machinery	18.0	1	11.7	4	15.8	5	2.7	5
Response coverage ratio[2] (percent)	67	(X)	69	(X)	53	(X)	76	(X)
Cost of purchased communication services	(1.1)	27	5.8	10	4.0	8	(3.2)	16
Response coverage ratio[2] (percent)	65	(X)	68	(X)	53	(X)	82	(X)
Rental payments	3.2	14	11.6	7	10.0	5	14.3	8
Buildings and other structures	1.4	9	6.9	13	4.8	10	10.2	10
Machinery and equipment	(1.8)	23	4.7	4	5.2	5	4.2	6
Supplemental labor costs	72.9	1	88.8	1	66.3	2	31.4	4
Legal costs	24.8	1	43.0	1	27.5	1	19.9	2
Voluntary costs	48.1	1	45.7	2	38.8	2	11.6	9
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	126.9	1	102.2	4	130.5	3	41.4	12
New capital expenditures	5.5	1	(13.5)	21	10.5	11	(2.5)	31
Used capital expenditures	-	(X)	0.8	1	(2.2)	61	(1.0)	50
Retirements	0.9	1	(1.4)	36	(3.8)	30	(4.1)	36
End of year	131.4	1	115.2	3	139.5	3	40.8	12
Machinery and equipment:								
Beginning of year	434.3	1	306.3	3	264.9	4	77.6	5
New capital expenditures	30.2	2	46.0	6	24.5	9	8.4	13
Automobiles, trucks, etc., for highway use[3]	(Z)	(A)	(0.7)	(A)	(0.3)	(A)	(1.2)	(A)
Computers and peripheral data processing equipment[3]	(0.2)	(A)	(1.0)	(A)	(0.7)	(A)	(1.0)	(A)
All other[3]	(29.0)	69	(37.1)	54	(19.4)	(A)	(5.3)	(A)
New machinery and equipment, n.s.k.[4]	(0.9)	(A)	(7.3)	(A)	(4.2)	(A)	(0.8)	(A)
Used capital expenditures	6.4	1	1.1	9	1.1	7	0.8	9
Retirements	13.7	1	12.9	3	9.0	8	5.4	6
End of year	457.2	1	340.6	2	281.5	3	81.4	5
Total gross value of depreciable assets:								
Beginning of year	561.2	1	408.6	3	395.5	3	119.0	6
New capital expenditures	35.7	2	59.5	6	35.0	9	10.9	13
Used capital expenditures	6.4	1	1.9	5	(3.3)	41	(1.8)	30
Retirements	14.6	1	14.2	6	12.8	10	(9.4)	16
End of year	588.7	1	455.8	2	421.0	3	122.2	6
Depreciation charges during 1977	35.3	1	32.4	3	25.2	4	8.2	7
Buildings and other structures	6.1	1	4.7	4	5.5	8	1.8	14
Machinery and equipment	29.2	1	27.7	4	19.8	3	6.4	6

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Commercial lighting fixtures (SIC 3646)		Vehicular lighting equipment (SIC 3647)		Lighting equipment, n.e.c. (SIC 3648)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	0.8	7	(0.8)	15	0.9	11
Response coverage ratio[2] (percent)	63	(X)	62	(X)	53	(X)
Machinery	2.1	6	(1.3)	18	(2.5)	19
Response coverage ratio[2] (percent)	49	(X)	77	(X)	41	(X)
Cost of purchased communication services	3.1	8	1.8	10	(2.4)	25
Response coverage ratio[2] (percent)	49	(X)	80	(X)	64	(X)
Rental payments	11.3	7	2.5	8	4.4	14
Buildings and other structures	6.1	12	(0.7)	29	(2.6)	18
Machinery and equipment	5.2	5	1.9	6	1.9	11
Supplemental labor costs	28.5	2	62.2	1	24.9	4
Legal costs	15.3	1	16.0	2	12.0	1
Voluntary costs	13.2	4	46.3	2	12.9	6
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	47.7	5	76.3	5	64.1	5
New capital expenditures	(3.1)	17	(3.3)	22	(3.1)	27
Used capital expenditures	0.3	1	0.1	1	1.7	61
Retirements	(1.2)	26	2.7	11	0.9	13
End of year	49.9	4	77.0	6	68.0	4
Machinery and equipment:						
Beginning of year	114.9	3	208.5	3	113.9	5
New capital expenditures	(17.7)	17	44.8	2	13.6	13
Automobiles, trucks, etc., for highway use[3]	(0.6)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(0.6)	(A)	(D)	(A)	(D)	(A)
All other[3]	(10.2)	(A)	(41.8)	48	(7.8)	(A)
New machinery and equipment, n.s.k.[4]	6.4	(A)	(1.0)	(A)	(5.3)	(A)
Used capital expenditures	0.2	1	1.0	1	0.4	1
Retirements	6.1	12	16.0	4	6.4	9
End of year	126.7	3	238.5	3	121.4	3
Total gross value of depreciable assets:						
Beginning of year	162.6	3	284.8	3	178.0	4
New capital expenditures	(20.8)	15	48.2	3	(16.7)	16
Used capital expenditures	0.5	1	1.1	1	(2.1)	50
Retirements	(7.2)	15	18.7	4	7.3	9
End of year	176.4	3	315.4	3	189.5	3
Depreciation charges during 1977	11.6	3	22.0	2	13.2	3
Buildings and other structures	1.8	5	3.0	4	2.9	6
Machinery and equipment	9.7	3	19.0	2	10.3	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3641, ELECTRIC LAMPS												
Total	-	**167**	**28.7**	**322.4**	**25.3**	**47.5**	**266.3**	**1 089.2**	**574.9**	**1 651.4**	**36.6**	**121.4**
Establishments with an average of—												
1 to 4 employees	E9	48	0.1	0.8	0.1	0.1	0.7	2.6	1.3	3.9	0.1	0.3
5 to 9 employees	E8	32	0.2	2.1	0.2	0.3	1.7	7.4	3.7	11.1	0.3	0.8
10 to 19 employees	E7	23	0.3	3.1	0.3	0.5	2.5	7.6	4.3	11.9	0.4	1.0
20 to 49 employees	E5	5	0.2	1.6	0.2	0.3	1.4	5.5	2.1	7.6	0.2	0.7
50 to 99 employees	E1	12	0.9	8.6	0.7	1.4	6.5	20.7	11.9	32.4	(2.4)	3.0
100 to 249 employees	-	6	1.1	12.0	0.9	1.7	9.1	39.2	22.7	61.6	(D)	5.5
250 to 499 employees	-	18	6.6	71.3	5.7	11.1	57.2	263.5	164.4	420.3	9.8	41.1
500 to 999 employees	-	19	13.8	157.5	12.2	22.4	130.2	530.2	269.5	794.3	(23.4)	53.1
1,000 to 2,499 employees	-	4	5.5	65.4	5.1	9.6	57.3	212.5	95.0	308.2	(D)	15.9
Covered by administrative records[2]	E0	85	0.5	4.9	0.4	0.8	4.0	15.6	8.0	23.6	0.7	1.6
INDUSTRY 3643, CURRENT-CARRYING WIRING DEVICES												
Total	-	**413**	**43.9**	**480.3**	**33.6**	**66.2**	**312.1**	**1 100.1**	**738.7**	**1 795.2**	**55.8**	**341.5**
Establishments with an average of—												
1 to 4 employees	E9	107	0.2	1.9	0.2	0.2	1.2	4.2	3.1	7.7	0.2	1.6
5 to 9 employees	E7	54	0.4	4.4	0.3	0.5	2.8	10.1	6.6	16.5	0.4	3.0
10 to 19 employees	E5	54	0.7	7.9	0.6	1.1	5.1	16.9	13.0	29.6	1.2	5.5
20 to 49 employees	-	58	1.9	19.4	1.5	2.9	12.0	49.9	45.2	92.5	1.9	17.1
50 to 99 employees	-	38	2.8	28.8	2.2	4.3	19.7	96.7	55.8	149.1	8.2	23.9
100 to 249 employees	-	63	10.3	107.5	8.1	15.7	71.9	264.2	195.4	453.7	13.1	82.1
250 to 499 employees	-	22	7.4	84.1	5.6	11.4	55.9	197.4	124.7	317.0	13.3	54.0
500 to 999 employees	-	10	6.7	82.9	4.5	8.8	49.1	179.1	122.6	300.4	6.4	72.9
1,000 to 2,499 employees	-	5	(13.4)	(143.3)	(10.6)	(21.2)	(94.3)	(281.7)	(172.4)	(428.7)	(11.2)	(81.5)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	160	0.8	10.0	0.7	1.2	6.3	22.0	14.8	36.8	0.8	7.4
INDUSTRY 3644, NONCURRENT-CARRYING WIRING DEVICES												
Total	-	**202**	**25.8**	**330.1**	**18.4**	**35.9**	**210.9**	**744.4**	**682.4**	**1 421.8**	**32.8**	**350.5**
Establishments with an average of—												
1 to 4 employees	E7	31	0.1	0.9	0.1	0.1	0.6	1.8	2.1	3.9	0.1	1.0
5 to 9 employees	E5	26	0.2	2.3	0.1	0.3	1.5	4.9	5.3	10.4	0.2	2.7
10 to 19 employees	E4	22	0.3	4.1	0.2	0.5	2.5	9.4	8.5	17.9	0.5	3.7
20 to 49 employees	E1	25	0.8	10.4	0.6	1.2	6.7	21.9	18.3	40.0	0.6	7.8
50 to 99 employees	-	38	2.8	30.8	2.2	4.2	20.9	66.6	93.5	162.9	2.7	31.4
100 to 249 employees	-	34	5.0	58.3	3.9	7.4	40.2	152.4	169.1	317.6	4.2	82.0
250 to 499 employees	-	14	4.6	50.8	3.4	6.5	33.1	127.4	142.0	268.8	6.8	57.9
500 to 999 employees	-	8	5.8	79.9	4.3	8.6	55.1	177.5	145.2	322.3	6.7	78.2
1,000 to 2,499 employees	-	3	(6.2)	(92.5)	(3.7)	(7.2)	(50.4)	(182.5)	(98.4)	(277.9)	(11.0)	(85.9)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	57	0.4	4.6	0.3	0.5	2.9	9.0	8.6	17.6	0.4	4.8
INDUSTRY 3645, RESIDENTIAL LIGHTING FIXTURES												
Total	-	**710**	**23.7**	**229.5**	**18.2**	**33.4**	**139.4**	**494.2**	**495.6**	**986.6**	**11.8**	**193.2**
Establishments with an average of—												
1 to 4 employees	E8	290	0.5	5.2	0.5	0.8	3.3	8.5	11.1	22.1	0.3	4.3
5 to 9 employees	E5	86	0.6	5.6	0.4	0.8	3.5	10.5	11.0	21.4	0.2	3.8
10 to 19 employees	E2	90	1.3	11.7	1.0	1.7	7.3	23.2	25.9	48.6	0.4	8.4
20 to 49 employees	E2	115	3.7	33.7	2.8	5.2	20.3	71.9	76.2	147.1	1.3	25.6
50 to 99 employees	-	73	5.3	51.4	4.2	7.8	32.3	123.0	110.9	233.1	3.5	39.1
100 to 249 employees	-	41	6.1	54.0	4.9	8.9	35.6	125.3	121.7	246.1	2.9	49.5
250 to 499 employees	-	12	4.1	40.9	3.1	5.7	25.9	70.1	86.1	154.1	2.1	39.5
500 to 999 employees	-	2	(2.3)	(26.9)	(1.4)	(2.4)	(11.2)	(61.8)	(52.7)	(114.0)	(1.1)	(22.9)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	273	0.7	7.9	0.6	1.1	4.9	16.1	16.3	32.4	0.4	6.4
INDUSTRY 3646, COMMERCIAL LIGHTING FIXTURES												
Total	-	**218**	**15.6**	**169.1**	**11.1**	**20.6**	**98.8**	**434.7**	**498.4**	**922.7**	**18.0**	**182.3**
Establishments with an average of—												
1 to 4 employees	E8	34	(Z)	0.5	(Z)	0.1	0.3	0.2	1.3	2.6	(Z)	0.5
5 to 9 employees	E6	26	0.2	2.0	0.1	0.2	1.2	4.6	5.0	9.5	0.1	1.6
10 to 19 employees	E6	36	0.5	5.3	0.4	0.7	3.1	10.2	11.9	22.0	0.2	4.1
20 to 49 employees	E1	49	1.7	18.3	1.2	2.3	10.4	41.0	40.2	81.0	1.4	13.1
50 to 99 employees	-	33	2.4	25.3	1.8	3.3	15.3	58.0	69.3	125.9	3.6	23.9
100 to 249 employees	-	26	4.2	45.8	3.0	5.7	26.5	106.4	121.9	223.7	4.7	47.2
250 to 499 employees	-	9	3.0	33.2	2.1	4.0	19.5	103.7	158.9	259.6	4.6	48.4
500 to 999 employees	-	4	(3.6)	(38.6)	(2.6)	(4.4)	(22.5)	(110.6)	(90.1)	(198.4)	(3.3)	(43.5)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	63	0.5	5.4	0.4	0.7	3.3	11.7	12.2	23.9	0.3	4.3

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3647, VEHICULAR LIGHTING EQUIPMENT												
Total	–	75	14.5	246.0	11.4	23.3	178.8	536.0	388.9	908.5	46.3	97.1
Establishments with an average of—												
1 to 4 employees	E9	23	(Z)	0.5	(Z)	(Z)	0.3	1.1	0.8	1.8	(Z)	0.2
5 to 9 employees	E0	3	(Z)	0.3	(Z)	(Z)	0.2	0.6	0.4	1.1	(D)	0.1
10 to 19 employees	E1	6	0.1	1.3	0.1	0.2	0.9	3.0	2.8	6.1	(0.2)	0.8
20 to 49 employees	–	13	0.5	4.6	0.3	0.7	3.0	11.6	10.3	22.0	0.4	4.6
50 to 99 employees	–	11	0.8	6.9	0.6	1.1	3.9	15.1	18.0	33.2	0.6	5.6
100 to 249 employees	–	10	1.9	18.6	1.4	2.8	11.2	41.8	35.8	75.9	0.8	16.7
250 to 499 employees	–	4	1.5	16.2	1.0	2.0	9.5	33.3	26.8	58.1	(44.3)	16.1
500 to 999 employees	–	2	(9.8)	(197.7)	(7.9)	(16.5)	(149.8)	(429.5)	(293.9)	(710.2)	(D)	(53.0)
1,000 to 2,499 employees	–	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	–	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	25	0.1	1.4	0.1	0.1	1.0	2.5	1.8	4.3	0.1	0.5
INDUSTRY 3648, LIGHTING EQUIPMENT, N.E.C.												
Total	–	223	12.8	146.0	9.1	17.7	85.7	342.5	332.7	670.6	15.8	126.5
Establishments with an average of—												
1 to 4 employees	E8	49	0.1	0.8	0.1	0.1	0.5	0.8	1.8	3.6	0.1	0.7
5 to 9 employees	E7	30	0.2	2.0	0.1	0.3	1.2	4.2	4.2	8.3	0.3	1.5
10 to 19 employees	E3	25	0.4	4.3	0.3	0.5	2.5	9.3	9.8	18.7	0.5	2.6
20 to 49 employees	E1	50	1.6	17.8	1.1	2.1	10.1	38.6	43.1	81.5	1.4	13.4
50 to 99 employees	–	31	2.2	24.4	1.6	3.1	14.0	56.7	61.6	116.4	2.9	23.9
100 to 249 employees	–	29	4.3	49.5	2.9	5.6	27.7	110.3	106.2	214.2	5.0	44.3
250 to 499 employees	–	8	(4.1)	(49.2)	(3.0)	(6.0)	(29.6)	(122.5)	(106.1)	(227.9)	(5.7)	(42.0)
1,000 to 2,499 employees	–	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	76	0.4	4.1	0.3	0.6	2.4	9.0	8.4	17.4	0.5	3.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3641	**Electric lamps:**										
	Entire industry	167	28.7	322.4	25.3	47.5	266.3	1 089.2	574.9	1 651.4	36.6
	Establishments with 75 percent specialization or more	162	27.7	314.2	24.5	46.1	260.2	1 069.1	562.2	1 618.8	36.2
3643	**Current-carrying wiring devices:**										
	Entire industry	413	43.9	480.3	33.6	66.2	312.1	1 100.1	738.7	1 795.2	55.8
	Establishments with 75 percent specialization or more	357	27.4	287.3	21.5	41.7	193.6	688.8	503.1	1 155.8	36.0
3644	**Noncurrent-carrying wiring devices:**										
	Entire industry	202	25.8	330.1	18.4	35.9	210.9	744.4	682.4	1 421.8	32.8
	Establishments with 75 percent specialization or more	176	16.5	208.7	12.1	23.6	132.6	469.6	443.8	913.2	(D)
36441	Electrical transmission line and pole hardware:										
	Establishments with this product class primary	33	5.6	70.1	3.9	7.8	43.0	141.0	138.5	280.3	5.6
	Establishments with 75 percent specialization or more in class	27	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36442	Electrical conduit and conduit fittings:										
	Establishments with this product class primary	49	12.1	161.6	8.2	16.1	100.2	370.2	388.9	753.7	16.8
	Establishments with 75 percent specialization or more in class	35	4.4	59.0	3.0	5.6	32.6	132.0	197.8	332.0	8.9
36443	Other noncurrent-carrying wiring devices:										
	Establishments with this product class primary	39	6.6	81.3	5.2	9.9	56.9	196.0	121.5	318.0	8.7
	Establishments with 75 percent specialization or more in class	29	5.1	65.7	4.0	7.9	47.3	153.8	96.4	250.0	8.1
3645	**Residential lighting fixtures:**										
	Entire industry	710	23.7	229.5	18.2	33.4	139.4	494.2	495.6	986.6	11.8
	Establishments with 75 percent specialization or more	680	22.2	216.2	17.1	31.3	131.8	469.7	460.1	924.5	10.5
36451	Residential lighting fixtures, except portable:										
	Establishments with this product class primary	100	10.0	102.5	7.3	13.5	58.5	237.2	233.2	466.7	5.3
	Establishments with 75 percent specialization or more in class	88	8.9	92.7	6.5	12.0	52.9	213.0	208.0	417.8	4.7
36457	Portable residential lighting fixtures:										
	Establishments with this product class primary	175	10.6	95.3	8.5	15.5	61.1	197.4	200.7	396.4	4.9
	Establishments with 75 percent specialization or more in class	162	9.4	84.9	7.6	13.8	54.9	176.6	171.7	347.5	4.0
3646	**Commercial lighting fixtures:**										
	Entire industry	218	15.6	169.1	11.1	20.6	98.8	434.7	498.4	922.7	18.0
	Establishments with 75 percent specialization or more	190	12.8	138.1	9.1	17.3	79.3	347.2	432.7	770.3	13.2
36462	Commercial and institutional lighting fixtures:										
	Establishments with this product class primary	106	13.0	140.9	9.3	17.1	82.4	363.1	417.4	769.0	14.2
	Establishments with 75 percent specialization or more in class	74	8.1	87.5	5.7	10.9	49.1	234.8	253.7	481.5	8.6
36463	Industrial lighting fixtures:										
	Establishments with this product class primary	27	1.8	19.9	1.3	2.4	11.2	54.3	62.2	116.3	3.3
	Establishments with 75 percent specialization or more in class	14	0.6	7.1	0.4	0.9	3.6	13.9	17.6	31.7	0.9
3647	**Vehicular lighting equipment:**										
	Entire industry	75	14.5	246.0	11.4	23.3	178.8	536.0	388.9	908.5	46.3
	Establishments with 75 percent specialization or more	66	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3648	**Lighting equipment, n.e.c.:**										
	Entire industry	223	12.8	148.0	9.1	17.7	85.7	342.5	332.7	670.6	15.8
	Establishments with 75 percent specialization or more	190	8.3	93.2	6.1	11.5	55.8	202.0	223.1	422.9	11.0
36485	Outdoor lighting equipment and parts:										
	Establishments with this product class primary	63	7.5	90.5	5.2	10.3	51.7	215.2	212.0	424.1	8.8
	Establishments with 75 percent specialization or more in class	46	3.9	48.1	2.8	5.3	27.2	100.7	128.4	228.6	4.8
36489	Other lighting equipment, n.e.c.:										
	Establishments with this product class primary	59	4.1	45.2	3.0	5.7	27.0	101.1	90.8	189.7	4.4
	Establishments with 75 percent specialization or more in class	42	3.0	31.3	2.3	4.4	20.1	70.7	62.3	132.0	3.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3641	Electric lamps....1977..	1,651.4	1,593.4	40.9	17.1	97	1,630.2	1,593.4	36.8	98
	1972..	1,095.7	1,032.8	55.1	7.8	95	1,069.1	1,032.8	36.3	97
	1967..	781.8	720.3	42.9	18.6	94	756.4	720.3	36.1	95
3643	Current-carrying wiring devices....1977..	1,795.2	1,448.7	284.3	66.2	84	1,824.9	1,448.7	376.2	79
	1972..	1,255.9	971.5	203.1	81.3	83	1,206.8	971.5	235.3	81
	1967..	837.0	619.7	171.6	45.8	78	789.8	619.7	170.1	78
3644	Noncurrent-carrying wiring devices....1977..	1,421.8	1,088.8	243.8	89.2	82	1,315.5	1,088.8	226.7	83
	1972..	886.4	647.6	178.9	59.9	78	832.7	647.6	185.1	78
	1967..	637.9	447.4	156.8	33.7	74	548.6	447.4	101.2	82
3645	Residential lighting fixtures....1977..	986.6	893.7	47.0	45.9	95	974.6	893.7	80.9	92
	1972..	767.2	695.3	23.3	48.6	97	746.1	695.3	50.8	93
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3646	Commercial lighting fixtures....1977..	922.7	805.5	93.5	23.7	90	935.0	805.5	129.5	86
	1972..	718.7	639.2	67.7	11.8	90	701.8	639.2	62.6	91
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3647	Vehicular lighting equipment....1977..	908.5	608.1	288.9	11.5	68	646.1	608.1	38.0	94
	1972..	499.8	335.8	159.0	5.0	68	358.1	335.8	22.3	94
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3648	Lighting equipment, n.e.c....1977..	670.6	543.3	95.5	31.8	85	674.7	543.3	131.4	81
	1972..	466.5	384.6	62.2	19.7	86	488.0	384.6	103.4	79
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

n.e.c. Not elsewhere classified.
[1]For 1972, industries 3645, 3646, 3647, and 3648 were established as separate industries. For 1967, data are not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Electric lamps (SIC 3641)	Current-carrying wiring devices (SIC 3643)	Non-current-carrying wiring devices (SIC 3644)	Residential lighting fixtures (SIC 3645)	Commercial lighting fixtures (SIC 3646)	Vehicular lighting fixtures (SIC 3647)	Lighting equipment, n.e.c. (SIC 3648)	Other industries
	Total	(X)	1,651.4	1,795.2	1,421.8	986.6	922.7	908.5	670.6	(X)
	Primary products	(X)	1,593.4	1,448.7	1,088.8	893.7	805.5	608.1	543.3	(X)
	Secondary products	(X)	40.9	284.3	243.8	47.0	93.5	288.9	95.5	(X)
	Miscellaneous receipts	(X)	17.1	62.2	89.2	45.9	23.7	11.5	31.8	(X)
36410	Lamp bulbs	1,630.2	1,593.4	(D)	(D)	(D)	(D)	(D)	(D)	23.2
36430	Current-carrying wiring devices, including lightning rods	1,824.9	(D)	1,448.7	50.5	(D)	(D)	-	(D)	317.0
3644-	Noncurrent-carrying wiring devices	1,315.5	-	(D)	1,088.8	-	(D)	-	(D)	151.3
36441	Electrical transmission line and pole hardware	276.2	-	(D)	221.2	-	(D)	-	(D)	18.9
36442	Electrical metal conduit and conduit fittings	634.4	-	(D)	498.7	-	-	-	(D)	108.9
36443	Other noncurrent-carrying wiring devices and supplies, n.e.c	342.7	-	(D)	307.9	-	(D)	-	(D)	(D)
36440	Noncurrent-carrying wiring devices, n.s.k	62.2	-	-	61.0	-	-	-	(D)	(D)
3645-	Residential lighting fixtures	974.6	(D)	(D)	-	893.7	47.3	(D)	(D)	21.2
36451	Lighting fixtures, residential except portable	461.0	(D)	-	-	402.8	(D)	-	(D)	8.3
36457	Lighting fixtures, portable residential	389.6	-	(D)	-	371.7	(D)	(D)	(D)	9.6
36450	Residential lighting fixtures, n.s.k	124.0	-	(D)	-	119.3	-	-	(D)	3.4
3646-	Commercial lighting fixtures	935.0	(D)	(D)	(D)	24.5	805.5	(D)	53.2	19.0
36462	Lighting fixtures, commercial and institutional	653.6	-	-	(D)	(D)	600.8	(D)	(D)	16.1
36463	Lighting fixtures, industrial	243.0	(D)	(D)	(D)	(D)	167.0	(D)	(D)	(D)
36460	Commercial lighting fixtures, n.s.k	38.4	-	-	-	(D)	37.7	-	.3	(D)
36470	Vehicular lighting equipment	646.1	-	(D)	-	(D)	(D)	608.1	(D)	30.8
3648-	Lighting equipment, n.e.c	674.7	-	(D)	4.8	3.8	(D)	4.4	543.3	87.3
36485	Outdoor lighting equipment, including parts	392.0	-	(D)	(D)	(D)	23.4	(D)	330.2	28.8
36489	Other lighting equipment, n.e.c	222.4	-	(D)	(D)	(D)	4.2	(D)	158.0	54.5
36480	Lighting equipment, n.e.c., n.s.k	60.3	-	-	(D)	-	(D)	-	55.2	4.1
	Other shipments by 4-digit product group:									
2514-	Metal household furniture	(X)	-	-	-	(D)	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	-	-	-	(D)	(X)
3229-	Pressed and blown glass, n.e.c	(X)	(D)	-	-	(D)	(D)	-	(D)	(X)
3231-	Products of purchased glass	(X)	-	-	-	(D)	-	(D)	-	(X)
3293-	Gaskets, packing, and sealing devices	(X)	-	-	(D)	-	-	-	-	(X)
3315-	Steel wire and related products	(X)	-	-	(D)	-	-	-	-	(X)
3317-	Steel pipe and tubes	(X)	-	(D)	(D)	(D)	(D)	-	-	(X)
3341-	Secondary nonferrous metals	(X)	-	(D)	-	-	-	-	-	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	(D)	-	-	-	-	-	(X)
3423-	Hand and edge tools, n.e.c	(X)	-	-	(D)	-	-	-	-	(X)
3429-	Hardware, n.e.c	(X)	-	-	(D)	(D)	-	(D)	-	(X)
3441-	Fabricated structural metal	(X)	-	-	(D)	-	(D)	-	(D)	(X)
3444-	Sheet metal work	(X)	-	-	-	(D)	(D)	-	-	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	(D)	11.2	-	-	-	-	(X)
3465-	Automotive stampings	(X)	-	-	-	(D)	-	(D)	(D)	(X)
3469-	Metal stampings, n.e.c	(X)	-	(D)	-	(D)	(D)	(D)	(D)	(X)
3494-	Valves and pipe fittings	(X)	-	(D)	(D)	-	-	-	-	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	-	(D)	-	-	-	-	(X)
3498-	Fabricated pipe and fittings	(X)	-	-	(D)	-	-	-	-	(X)
3535-	Conveyors and conveying equipment	(X)	-	(D)	-	-	-	-	-	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	(D)	-	(D)	-	(D)	-	(X)
3559-	Special industry machinery, n.e.c	(X)	-	(D)	-	-	-	-	-	(X)
3573-	Electronic computing equipment	(X)	-	(D)	-	-	-	-	-	(X)
3599-	Machinery, except electrical n.e.c	(X)	-	-	(D)	-	-	-	-	(X)
3613-	Switchgear and switchboard apparatus	(X)	-	(D)	(D)	-	(D)	(D)	(D)	(X)
3622-	Industrial controls	(X)	-	37.2	(D)	-	-	(D)	-	(X)
3623-	Welding apparatus, electric	(X)	-	(D)	-	-	-	-	-	(X)
3662-	Radio and TV communication equipment	(X)	-	3.9	(D)	-	(D)	(D)	(D)	(X)
3678-	Electronic connectors	(X)	-	25.9	-	-	(D)	-	-	(X)
3679-	Electronic components, n.e.c	(X)	(D)	(D)	(D)	-	(D)	(D)	(D)	(X)
3694-	Engine electrical equipment	(X)	-	(D)	-	-	-	(D)	-	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	(D)	(D)	-	(D)	(D)	(D)	(D)	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	-	(D)	-	-	(D)	-	(X)
3743-	Railroad equipment	(X)	-	-	(D)	-	-	-	-	(X)
3861-	Photographic equipment and supplies	(X)	-	(D)	-	-	-	-	(D)	(X)
3999-	Manufacturing industries, n.e.c	(X)	-	-	-	5.7	(D)	-	(D)	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	-	(D)	(D)	(D)	(D)	(D)	(D)	(X)
99980 13	Sales of scrap and refuse	(X)	(X)	8.7	2.6	(D)	(D)	(D)	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	(X)	(X)	(D)	(X)	(X)	(X)	(X)	(X)
99980 98	Other miscellaneous receipts	(X)	.3	(D)	2.5	(D)	(D)	(D)	(D)	(X)
99989 00	Resales	(X)	16.8	44.4	83.4	44.5	18.1	6.8	20.5	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3641-	3679 Electronic components, n.e.c.	(D)
	3699 Electrical equipment and supplies, n.e.c.	(D)
	3714 Motor vehicle parts and accessories	(D)
3643-	3264 Porcelain electrical supplies	(D)
	3356 Nonferrous rolling and drawing, n.e.c.	(D)
	3612 Transformers	(D)
	3613 Switchgear and switchboard apparatus	34.9
	3622 Industrial controls	(D)
	3629 Electrical industrial apparatus, n.e.c.	(D)
	3661 Telephone and telegraph apparatus	(D)
	3662 Radio and TV communication equipment	(D)
	3678 Electronic connectors	77.0
	3822 Environmental controls	50.1
	3861 Photographic equipment and supplies	(D)
3644-	3312 Blast furnaces and steel mills	(D)
	3317 Steel pipe and tubes	44.4
	3351 Copper rolling and drawing	(D)
	3357 Nonferrous wire drawing and insulating	(D)
3644-	3523 Farm machinery and equipment	(D)
	3613 Switchgear and switchboard apparatus	(D)
	3661 Telephone and telegraph apparatus	(D)
	3822 Environmental controls	(D)
	3861 Photographic equipment and supplies	(D)
3645-	3999 Manufacturing industries, n.e.c.	(D)
3646-	3841 Surgical and medical instruments	(D)
3647-	3429 Hardware, n.e.c.	(D)
	3662 Radio and TV communication equipment	(D)
	3694 Engine electrical equipment	(D)
3648-	3499 Fabricated metal products, n.e.c.	(D)
	3523 Farm machinery and equipment	(D)
	3561 Pumps and pumping equipment	(D)
	3585 Refrigeration and heating equipment	(D)
	3692 Primary batteries, dry and wet	11.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

[1]Other miscellaneous receipts for industry 3641 could include repair work.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies	Quantity of production for all purposes[2]	Product shipments: Quantity	Product shipments: Value (million dollars)	Quantity of production for all purposes	Product shipments: Quantity	Product shipments: Value (million dollars)
	ELECTRIC LAMPS								
3641- --	Total	.....	(NA)	(X)	(X)	1,630.2	(X)	(X)	1,069.1
36410 --	Electric lamps (bulbs only) including sealed beam lamps, but excluding light emitting diode and liquid crystal diode displays:[1]								
36410 10	As reported in the census of manufactures	.....	22	(X)	(X)	1,571.7	(X)	(X)	[2]1,062.3
	As reported in Current Industrial Reports MQ-36B, Electric Lamps	.....	(NA)	(X)	(X)	[3]1,626.7	(X)	(X)	1,040.0
	Photographic incandescent:								
	Photoflash, including blue:								
36410 26	AG (all glass) lamps	Million bulbs.	4	12.2	27.7	2.6	23.1	81.8	6.0
36410 24	M-types		4	50.7	55.7	7.7	174.8	158.6	15.4
36410 21	Flash cubes (number of lamps)		5	2,108.6	2,223.5	230.8	1,458.2	1,535.0	96.2
36410 22	Other flash lamps (number of lamps for flash bars, etc.)		4	11.7	10.8	1.8	37.1	37.4	4.1
36410 28	Projection, bulk packed		3	3.5	3.6	11.6	3.6	3.5	7.7
36410 29	Projection, all other		3	9.1	9.5	46.8	9.1	9.0	29.2
36410 25	Photoflood, photo-enlarger, and other photolamps		3	2.6	2.7	5.8	3.7	3.8	7.2
	Large incandescent, except photographic and Christmas tree:								
	General lighting:								
36410 08	15-150 watts, 100-130 volts--white lamps		8	514.6	506.3	116.9	493.3	486.0	75.6
36410 09	15-150 watts, 100-130 volts--all other		9	698.0	674.9	152.1	749.8	741.6	108.5
36410 12	Above 150 watts, 100-130 volts		9	46.4	46.3	26.9	69.7	69.3	24.2
36410 13	3-way, 100-130 volts		7	49.6	52.5	26.7	50.7	51.5	19.0
	Reflector, 100-130 volts:								
36410 14	Par type (pressed glass)		8	29.9	29.4	56.8	27.8	27.9	35.4
36410 19	R type (blown glass)		8	32.2	31.5	40.8	23.2	23.7	19.8
36410 15	Infrared (all types)		5	6.1	5.8	14.1	4.5	4.7	7.5
36410 16	Traffic and street lighting, 100-130 volts		6	7.9	7.8	4.4	9.8	10.1	3.6
36410 17	Rough and vibration service, 100-130 volts		5	30.8	28.6	14.7	33.2	31.1	9.9
	Tungsten halogen (quartz iodine), excluding 650 watt sungun lamps:								
36410 05	General lighting		4	3.3	3.1	23.6	2.6	2.5	11.9
36410 06	Other		3	1.4	1.4	16.2	.7	.8	5.9
36410 07	Decorative under 150 watt, 100-130 volt, except A-line		5	44.1	44.1	21.8	272.1	39.4	12.2
36410 18	All other large incandescent (special purpose)		6	188.2	183.2	65.4	(X)	209.4	46.4
	Miniature incandescent, except Christmas tree:								
	Automobile glass and metal sealed beams:								
36410 30	Under 6 inches, bulk packed		4	35.6	35.4	49.5	33.3	34.4	20.4
36410 31	Under 6 inches, all other		4	22.6	22.9	33.7	29.7	28.4	23.1
36410 32	6 inches and over, bulk packed		4	21.6	21.5	28.1	12.1	12.4	8.8
36410 37	6 inches and over, all other		4	21.2	21.6	28.9	17.0	17.1	14.4
	Automobile miniature other than glass and metal sealed beams:								
36410 33	Bulk packed		4	548.0	514.6	48.3	488.8	496.4	32.7
36410 36	All other		5	203.6	186.3	34.6	198.2	184.6	23.1
36410 34	Flashlight		3	36.4	34.5	4.1	56.5	61.4	5.1
36410 35	Radio panel		5	78.5	72.6	8.3	60.9	62.3	3.4
36410 39	All other miniature	Million bulbs.	5	51.0	46.7	17.1	141.5	145.2	39.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies	Quantity of production for all purposes	Product shipments: Quantity	Product shipments: Value (million dollars)	Quantity of production for all purposes	Product shipments: Quantity	Product shipments: Value (million dollars)
3641- --	ELECTRIC LAMPS--Con.								
	Electric discharge, except Christmas tree:								
36410 41	Germicidal, bacterial, and ozone	Million bulbs.	4	.5	.5	2.5	0.4	0.4	1.0
36410 42	Sunlamp bulbs		6	.5	.5	3.6	.7	.8	3.5
	Fluorescent, hot cathode:								
36410 43	Slimline, single pin base, including rapid start		5	51.4	50.5	77.4	52.6	53.8	57.7
36410 46	Circular, including rapid start		4	5.1	5.4	13.7	4.8	5.2	9.9
36410 47	High output 800 milliamp and over, including power groove, VHO, and SHO		4	22.4	22.1	53.4	22.8	22.4	37.4
36410 44	Other fluorescent hot cathode lamps, below 40 watts		5	41.2	41.8	48.8	46.2	45.0	34.5
36410 45	Other fluorescent hot cathode lamps, 40 watt and over, including pre-heat-rapid start		5	175.6	180.2	131.2	162.9	166.5	90.9
	Miscellaneous electrical discharge:								
36410 51	Glow		4	265.9	264.8	16.1	135.5	129.7	12.2
36410 52	General lighting high intensity lamps		6	10.9	10.6	101.2	8.3	8.0	52.8
36410 53	Sodium, photo-chemical, and other miscellaneous electrical discharge		5	.2	.2	5.4	.1	.1	4.0
36410 55	Christmas tree lamps (all types)	Million bulbs.	1	(D)	(D)	(D)	240.7	228.7	20.1
36410 63	Cold cathode fluorescent lamps for illumination and decoration, including custom built lamps, but excluding sign applications	.....	1	(X)	(X)	(4)	(X)	(X)	1.3
36410 00	Electric lamps, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	4 34.9	(X)	(X)	(2)
36410 02	Electric lamps, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	23.6	(X)	(X)	5.5

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments: Quantity	Product shipments: Value (million dollars)	Product shipments: Quantity	Product shipments: Value (million dollars)
	CURRENT-CARRYING WIRING DEVICES						
3643- --	Total	.....	(NA)	(X)	1,824.9	(X)	1,206.8
36430 --	Current-carrying wiring devices, including lightning rods:						
	As reported in the census of manufactures	.....	231	(X)	1,787.6	(X)	1,193.7
	As reported in Current Industrial Reports MA-36K, Wiring Devices and Supplies	.....	(NA)	(X)	1,651.8	(X)	1,128.5
	Lampholders:						
	Incandescent:						
36430 04	Nonmetallic outer shell, threaded, medium base only, key, keyless, push through, and pull types, excluding outlet box type and socket interiors	Millions	13	5 25.0	7.7	37.7	13.7
36430 01	Metal outer shell, threaded, medium base only, key, keyless, push through, and pull types, excluding outlet box type and socket interiors		11	58.0	16.4	56.5	10.6
36430 02	Outlet box, threaded medium base only, pull and keyless types		9	6 20.5	12.9	12.0	3.5
36430 06	Weatherproof, threaded, medium base only		11	5 9.0	3.0	8.7	2.4
36430 11	Candelabra base, all types		9	36.0	3.5		
36430 12	Mogul base, all types		6	3.8	2.9		
36430 13	Sign and fixture, medium base only, all types		8	69.6	19.4		
36430 14	All other incandescent (medium, admedium, bayonet, intermediate, lumiline, miniature, including but not limited to pin-type, cleat, hasp, and socket interiors, sold separately, all bases)	Millions	19	73.3	17.3	315.2	30.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
				Product shipments		Product shipments	
			Number of companies	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	CURRENT-CARRING WIRING DEVICES--Con.						
36430 --	Current-carrying wiring devices, including lightning rods--Con.						
	As reported in Current Industrial Reports MA-36K, Wiring Devices and Supplies--Con.						
	Lampholders--Con.						
	Fluorescent:						
36430 08	Bi-pin	Millions	8	163.6	14.5	136.9	10.9
36430 09	Slimline		5	18.9	2.9	45.0	4.7
36430 15	Recessed double contact		6	15.8	3.4	13.4	2.3
36430 16	All other fluorescent, including but not limited to circline, panelescent, and starter holders		7	5.3	r1.2		
36430 18	All other lampholders, including but not limited to cold cathode, neon, and bases for quartz lamps		6	6 3.0	r1.4	.8	1.0
	Convenience and power outlets, both general and special purposes:						
36430 27	Receptacles with GFCI (all types, all amperages)		6	.8	13.4	(8)	(8)
36430 28	2-pole, 2-wire (flush, all types, all amperages)		10	4.4	1.5	45.8	8.6
	2-pole, 3-wire and up (flush):						
36430 29	Locking, 15 amperes and under		10	.6	r1.5	5.6	3.2
36430 30	Locking, 20 amperes and over		9	1.9	7.0	2.3	5.0
36430 31	Nonlocking, 15 amperes and under		19	201.0	75.0	85.0	29.5
36430 32	Nonlocking, 20 amperes and over		16	15.7	22.4	30.0	14.8
36430 34	Appliance and special applications (all amperages, all types)		4				
36430 35	Dust and explosion proof, excluding pin and sleeve		2				
36430 38	All other types, including but not limited to surface outlets, convenience and power outlets, flush mounted, with integral ground fault protection (GFCI), excluding pin and sleeve		12	44.3	17.2	8 10.5	8 15.3
	Attachment plug caps and flanged inlets, including motor bases, all types, including fused, fuseless, switch, and switchless:						
36430 40	2-pole, 2-wire, all types, all amperages (general use, lock and nonlocking)		15	138.7	14.9	101.4	10.2
	2-pole, 3-wire and up:						
36430 41	Locking, 15 amperes and under		10	2.4	3.9	3.3	3.1
36430 42	Locking, 20 amperes and over		10	3.4	10.6	4.7	8.6
36430 43	Nonlocking, 15 amperes and under		15	7 21.3	17.2	22.2	10.4
36430 44	Nonlocking, 20 amperes and over		12	1.5	3.8	5.2	2.5
36430 46	Appliance and special application types, all amperages		5	6.6	7.8	4.7	2.4
36430 47	Dust and explosion proof, excluding pin and sleeve		2	5.4	4.5	4.8	4.7
36430 48	All other types, excluding pin and sleeve		3				
	Connector bodies and flanged outlets, all types, including fused and fuseless:						
36430 49	2-pole, 2-wire, all types, all amperages		13	14.7	4.4	29.9	3.4
	2-pole, 3-wire and up:						
36430 50	Locking, 15 amperes and under		8	1.0	2.2	1.5	2.1
36430 51	Locking, 20 amperes and over		9	2.1	8.5	2.4	6.7
36430 54	Nonlocking, 15 amperes and under		13	5.3	8.3	10.7	8.6
36430 55	Nonlocking, 20 amperes and over		9	.3	1.0	1.4	1.1
36430 57	Appliance and special application types, all amperages		7	28.3	15.6		
36430 58	Dust and explosion proof, excluding pin and sleeve		-	-	-	(S)	20.5
36430 59	All other types, excluding pin and sleeve		2	(9)	(9)		
	Pin and sleeve convenience and power outlets, attachment plug caps, and connector bodies:						
	Pin and sleeve, general purpose (120 volts and over, 20 amperes and over):						
36430 20	Convenience and power outlets		6	1.9	10.6		
36430 21	Attachment plug caps		6	.5	9.7		
36430 22	Connector bodies		4	6 .1	2.3		
	Pin and sleeve, dust and explosion proof (120 volts and over, 20 amperes and over):						
36430 23	Convenience and power outlets		3			(S)	25.6
36430 24	Attachment plug caps		3	(S)	10.1		
36430 25	Connector bodies		3				
36430 26	Pin and sleeve, under 120 volts, under 20 amperes, all types, except electronic		-	-	-		
	Switches:						
	General use flush mounted switches, designed for mounting in switch or outlet boxes, except dimmers:						
	A.c., except mercury:						
36430 60	Single pole, 15 amperes and under		15	68.3	29.4	34.2	11.7
36430 63	Single pole, over 15 amperes		13	18.0	8.8	21.8	7.4
36430 64	Other than single pole, including but not limited to double pole, 3-way, 4-way (all amperages)		14	22.1	22.2	16.9	8.2
	A.c.-d.c., except mercury:						
36430 65	Single pole, all amperages		8	6.4	3.3	12.8	4.2
36430 66	Other than single pole, including but not limited to double pole, 3-way, 4-way	Millions	9	3.7	2.8	13.2	5.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	CURRENT-CARRYING WIRING DEVICES--Con.						
36430 --	Current-carrying wiring devices, including lightning rods--Con.						
	As reported in Current Industrial Reports MA-36K, Wiring Devices and Supplies--Con.						
	Switches--Con.						
	General use flush mounted switches, designed for mounting in switch or outlet boxes, except dimmers--Con.						
36430 67	Mercury	Millions	2	} 70.2	27.3	8.2	3.0
36430 68	All other general use switches, including but not limited to surface-mounted		14			43.8	16.1
	Special purposes switches, except dimmers:						
36430 70	Appliance and fixture, including pendant and canopy types and variable speed controls		29	206.8	138.5	161.3	102.5
36430 36	Precision (1/8" gap or less) snap-acting switches, excluding limit switches		11	152.3	117.9	161.0	75.9
36430 72	Aircraft types		6	[6].1	7.2	81.2	22.2
36430 76	Automotive types		11	124.8	49.4		
36430 77	All other special purposes switches, including but not limited to foot actuated and excluding industrial-control type (light sensing and signal-actuated)		19	164.3	60.6	(S)	14.0
	Dimmers:						
	Incandescent:						
36430 93	Infinitely variable, 600 watts or under		7	[6]6.3	13.9	3.5	6.7
36430 94	Infinitely variable, over 600 watts		6	.8	6.2		
36430 95	All other types, including but not limited to portable lamps and high-low switches		5				
36430 96	Fluorescent starters		9	16.6	3.9	24.0	3.2
36430 97	Terminal blocks	Millions	27	158.0	54.8	(S)	32.8
36430 61	Lightning arresters for alternating current power transmission systems and substations; U.S. designation, station, and intermediate, I.E.C. designation 10 Ka and 5 Ka series A		4	(X)	30.6	(X)	20.3
36430 62	Lightning arresters for alternating current power distribution systems and substations; U.S. designation, distribution and secondary, I.E.C. designation 5 Ka series B, 2.5 Ka and 1.5 Ka		5	(X)	27.2	(X)	26.0
36430 69	Choke coils and all other protective devices, n.e.c., including devices for railway signaling power circuit		4	(X)	11.5	(X)	7.2
36430 73	Rail bonds for both propulsion and signal circuits		2				
36430 75	Metal contacts, precious and other	Billions	19	6,491.8	118.2	8.7	97.8
	Wire connectors, including connectors used under national electrical applications:						
36430 82	Pressure connectors, where pressure is applied by screw, cone or other mechanical device	Millions	32	[6]447.7	97.6	(S)	60.6
36430 83	Compression connectors (uninsulated terminals and splicers, tool installed)		28	3,371.4	82.3	(S)	65.4
36430 84	Preinsulated terminals and splicers, tool installed		13	7,241.2	45.6	(S)	39.5
36430 86	Banded or strip terminals and splicers, machine installed		19	4,984.6	49.6	(S)	64.3
36430 87	Pigtail connectors, including wire nuts		10	[7]1,643.7	30.4	(S)	17.3
36430 88	Blade or pin type, separable terminations and splicers		19	[5]9,895.3	144.2	(S)	34.8
36430 89	Other wire connectors, n.e.c., including solder type	Millions	29			(S)	41.4
36430 91	Lightning rods		6	(X)	4.0	(X)	2.8
36430 92	Overhead trolley line material, except pole and transmission line construction materials and expansion plugs for roof bolting in mines		4	(X)	12.4	(X)	7.6
36430 99	Miscellaneous, including but not limited to combination devices, adaptors, current taps, surface extensions, and rosettes		32	(X)	72.2	(X)	63.8
36430 98	All other wiring devices with integral groundfault circuit interrupting capabilities (excluding circuit breakers)		8				
36430 02	Current-carrying wiring devices, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	37.3	(X)	13.1

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

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1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	NONCURRENT-CARRYING WIRING DEVICES						
3644- --	Total	.....	(NA)	(X)	1,315.5	(X)	832.7
36441 --	Electrical transmission line and utility pole hardware, noncurrent-carrying:						
	As reported in the census of manufactures	.....	32	(X)	276.2	(X)	222.3
	As reported in Current Industrial Reports MA-36K, Wiring Devices and Supplies	.....	(NA)	(X)	274.2	(X)	228.9
36441 12	Pole and transmission line construction materials, also known as overhead and underground line hardware for electric transmission, distribution, and communication lines, excluding pole and transmission line anchors, and pole and transmission line construction materials, where such materials are not otherwise commercially available	.....	47	(X)	205.1	(X)	156.7
36441 13	Pole and transmission line anchors	.....	3	(X)	48.9	(X)	3.8
36441 14	Pole and transmission line construction materials, manufactured to specification, where such materials are not otherwise commercially available	.....	11			(X)	48.0
36441 51	Suspension hardware for high voltage insulators, including clamps and fittings, strain yokes and fittings	.....	13	(X)	20.5	(X)	20.4
36442 --	Electrical metal conduit and conduit fittings:						
	As reported in the census of manufactures	.....	79	(X)	634.4	(X)	393.7
	As reported in Current Industrial Reports MA-36K, Wiring Devices and Supplies	.....	(NA)	(X)	613.7	(X)	386.9
	Rigid conduit (standard weights), metal only, including couplings, nipples, bends, and elbows:						
36442 21	Steel	1,000 s. tons.	17	226.1	147.0	308.6	90.9
36442 25	Aluminum		5	3.3	5.1	11.3	8.6
36442 26	Other metal conduit		1				
36442 27	Electrical metallic tubing	1,000 s. tons.	19	209.2	126.1	248.8	87.7
36442 33	Flexible steel conduit	Million ft.	10	168.1	30.6	86.8	9.9
	Raceways and wireways, including fittings, metal:						
36442 34	Surface	.....	12	(X)	13.0	(X)	41.0
36442 37	Underfloor	.....	4	(X)	39.6		
36442 38	Ventilated cable tray and accessories	.....	4				
	Rigid conduit fittings, excluding couplings, nipples, bends, and elbows:						
36442 51	Cast conduit bodies, covers, and gaskets	.....	19	(X)	41.9	(X)	29.1
36442 53	Couplings, connectors, and unions	.....	15	(X)	20.7	(X)	12.6
36442 54	Locknuts and bushings	.....	8	(X)	10.9	(X)	4.7
36442 59	All other rigid conduit fittings	.....	10	(X)	16.5	(X)	5.9
	EMT fittings (couplings and connectors):						
36442 56	Gland type	.....	16	(X)	18.6	(X)	12.1
36442 57	Set-screw type	.....	19	(X)	14.4	(X)	12.7
36442 58	All others	.....	11	(X)	1.4	(X)	2.0
36442 44	Service entrance caps, ells, and conductors	.....	27	(X)	9.4	(X)	9.3
	Cable, cord, and flexible conduit fittings:						
36442 71	Armored cable, metallic sheathed cable, and flexible conduit fittings, including liquid-tight	.....	24	(X)	62.3	(X)	29.2
36442 72	Nonmetallic sheathed cable and cord fittings	.....	19	(X)	29.9	(X)	16.8
36442 46	Other electric metal conduit fittings	.....	22	(X)	26.3	(X)	14.3
36443 --	Other noncurrent-carrying wiring devices and supplies, including switch, receptacle, junction and outlet boxes, covers, supports, hangers, gaskets, etc.:						
	As reported in the census of manufactures	.....	67	(X)	342.7	(X)	195.9
	As reported in Current Industrial Reports MA-36K, Wiring Devices and Supplies	.....	(NA)	(X)	341.9	(X)	218.1
	Stamped metal boxes, covers, and accessories, including stamped conduit boxes:						
36443 31	Switch and receptacle boxes	Millions	20	(X)	72.7	120.4	49.6
36443 32	Outlet boxes		15	(X)	45.5	138.8	33.1
36443 33	Covers	Millions	20	(X)	22.8	(S)	18.4
36443 34	Supports, bar hangers, and other accessories	.....	24	(X)	47.3	(X)	24.2
	Cast metal boxes, covers, gaskets, and accessories:						
36443 41	FS and FD switch and receptacle type	.....	14	(X)	8.8	(X)	8.4
36443 42	Outlet type	.....	9	(X)	19.1	(X)	8.9
36443 43	Junction type	.....	17	(X)	23.5	(X)	25.7
	Switch, outlet, FM/TV, and telephone wall plates:						
36443 35	Metallic	Millions	10	19.6	r11.2	48.4	6.4
36443 36	Nonmetallic	Millions	10	142.3	18.3	162.2	15.0
36443 37	Plastics boxes and covers	.....	15	(X)	31.6	(X)	23.5
36443 38	Floor boxes and covers	.....	9	(X)	8.6	(X)	4.9
36443 00	Other noncurrent-carrying wiring devices and supplies, n.s.k.	.....	(NA)	(X)	32.5	(X)	-

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments Quantity	1977 Product shipments Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	NONCURRENT-CARRYING WIRING DEVICES--Con.						
36440 00	Noncurrent-carrying wiring devices, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	44.6	(X)	16.7
36440 02	Noncurrent-carrying wiring devices, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	17.6	(X)	4.1
	RESIDENTIAL LIGHTING FIXTURES						
3645- --	Total	.....	(NA)	(X)	974.6	(X)	746.1
36451 --	Lighting fixtures, electric, residential type, except portable, including parts:						
	As reported in the census of manufactures	.....	108	(X)	461.0	(X)	291.9
	As reported in Current Industrial Reports MA-36L, Electric Lighting Fixtures	Millions	(NA)	(X)	474.2	(S)	287.9
	Incandescent, excluding portable lamps, PAR lampholders, and floodlights:						
	Interior, including bath or kitchen:						
36451 11	Ceiling or pendant		94	28.5	292.4	(S)	185.0
36451 13	Wall or bracket		73	7.1	52.0	(S)	38.6
	Outdoor:						
36451 15	Designed for attachment to house		64	7.7	61.2	(S)	29.0
36451 17	Not designed for attachment to house (garden, patio, and yard)		39	1.5	18.1	(S)	15.6
36451 61	Fluorescent, except portable	Millions	40	4.3	45.4	(S)	19.7
36451 69	Components and renewal parts, for residential types, sold separately	.....	16	(X)	5.1	(X)	(10)
36457 --	Lighting fixtures, electric, portable residential type, including parts	.....	(NA)	(X)	389.6	(X)	320.9
	Incandescent portable lamps, complete:						
	Complete with shades:						
36457 21	Floor, bridge, and torch lamps	.....	53	(X)	48.3	(X)	27.4
36457 22	Wall lamps, including adjustable types	.....	43	(X)	25.5	(X)	35.5
36457 23	Table lamps	.....	85	(X)	189.2	(X)	166.1
36457 29	Other, including boudoir	.....	50	(X)	48.4	(X)	32.3
36457 32	Lamps sold without shades, including floors, bridge, table, etc.	.....	17	(X)	11.9	(X)	16.8
36457 61	Portable lamps (desk, etc.), fluorescent	.....	16	(X)	16.7	(X)	15.3
36457 73	Parts and accessories for portable residential lighting fixtures	.....	16	(X)	18.0	(X)	10 15.1
36457 00	Lighting fixtures, electric, portable residential type, n.s.k.	.....	(NA)	(X)	31.6	(X)	12.4
36450 00	Residential lighting fixtures, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	91.6	(X)	109.3
36450 02	Residential lighting fixtures, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	32.4	(X)	24.0
	COMMERCIAL LIGHTING FIXTURES						
3646- --	Total	.....	(NA)	(X)	935.0	(X)	701.8
36462 --	Lighting fixtures, electric, commercial and institutional type, including parts:						
	As reported in census of manufactures	.....	129	(X)	653.6	(X)	527.2
	As reported in Current Industrial Reports MA-36L, Electric Lighting Fixtures	Thousands	(NA)	(X)	646.1	(S)	502.1
	Incandescent fixtures:						
	Utilitarian and ornamental types, except portable (primarily for public buildings, banks, stores, office buildings, schools, auditoriums, churches, theaters, etc.):						
36462 11	Surface or pendant		71	r2,286	r36.5	(S)	26.1
36462 15	Recessed	Thousands	48	11,533	83.5	(S)	65.0
36462 18	Specialized custom lighting fixtures, chandeliers, church lighting, etc., except portable	.....	41	(X)	11.1	(X)	9.9
36462 19	Other incandescent fixtures, such as interior display, portable lamps, and PAR lamp holders	.....	42	(X)	40.4	(X)	22.2
	Mercury and other high-intensity discharge fixtures:						
36462 32	Open reflector, 175 watts or less	Thousands	14	67	4.3	51	4.6
36462 33	Open reflector, 176 watts or more		19	89	6.5		
36462 34	Shielded, 175 watts or less		19	82	5.8		
36462 35	Shielded, 176 watts or more	Thousands	21	118	9.6		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments Quantity	1977 Product shipments Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	COMMERCIAL LIGHTING FIXTURES--Con.						
	Lighting fixtures, electric, commercial and institutional type, including parts--Con.						
	As reported in Current Industrial Reports MA-36L, Electric Lighting Fixtures--Con.						
	Incandescent fixtures--Con.						
	Fluorescent fixtures, except portable:						
36462 51	Recessed air handling, including heat extraction version	Thousands	36	1,296	43.4	(S)	43.2
36462 53	Recessed non-air handling, including heat extraction versions		70	7,040	152.2	(S)	135.7
36462 54	Striplights	Thousands	71	7,389	86.2	(S)	78.8
36462 55	Ceiling systems, including luminous ceilings		24	(X)	12.5	(X)	11.9
36462 56	Plastic wraparound	Thousands	60	3,835	70.5	(S)	54.7
36462 57	Wall mounted fixtures		48	426	12.2	(S)	1.8
36462 58	Surface and pendant, louvered and lens type		60	1,112	29.6	(S)	25.5
36462 59	Enclosed and gasketed		33	204	r9.7	(S)	3.9
36462 61	Indoor signs, including electroluminescent (exit, directional, etc.)		33	626	11.3	(S)	6.0
36462 62	Indoor emergency lighting (automatic, self-powered)	Thousands	19	55	4.0		
36462 60	All other, including indirect		22	(X)	12.0	(X)	12.9
36462 69	Components and renewal parts for commercial and institutional type lighting fixtures		25	(X)	4.7	(X)	(11)
36463 --	Lighting fixtures, electric, industrial type, including parts:						
	As reported in census of manufactures		74	(X)	243.0	(X)	162.6
	As reported in Current Industrial Reports MA-36L, Electric Lighting Fixtures		(NA)	(X)	243.4	(X)	166.7
	General lighting fixtures, except portable:						
36463 11	Incandescent	Thousands	27	1,271	13.9	(S)	5.9
36463 13	Fluorescent		65	5,176	96.7	(S)	71.0
	Mercury and other high-intensity discharge types, including integrally mounted and remite ballasts:						
36463 15	Open reflector, 175 watts or less		13	39	2.4		
36463 14	Open reflector, 176 watts or more		18	569	35.2	(S)	30.5
36463 20	Shielded, 175 watts or less,		10	38	3.5		
36463 21	Shielded, 176 watts or more		13	151	19.3		
	Other industrial fixtures, such as explosion-proof, vapor-proof, dust-tight, etc., including enclosed and gasketed:						
36463 16	Incandescent, including portable		20	1,551	19.5	(X)	(12)
36463 17	Fluorescent, including portable		17	431	19.0	(S)	10.7
36463 19	Mercury and other high-intensity discharge types, including integrally mounted and remote ballasts	Thousands	24	561	29.5	(S)	12 26.0
36463 29	Components and renewal parts for industrial type lighting fixtures		19	(X)	4.4	(X)	11 22.6
36460 00	Commerical lighting fixtures, typically for establishments with 5 employees or more (see note)		(NA)	(X)	14.5	(X)	4.5
36460 02	Commerical lighting fixtures, typically for establishments with less than 5 employees (see note)		(NA)	(X)	23.9	(X)	7.5
	VEHICULAR LIGHTING EQUIPMENT						
3647- --	Total		(NA)	(X)	646.1	(X)	358.1
36470 --	Vehicular lighting equipment, automotive, aircraft, ship and boat, railroad car and streetcar, etc., excluding bulbs:						
	As reported in census of manufactures		57	(X)	641.8	(X)	356.5
	As reported in Current Industrial Reports MA-36L, Electric Lighting Fixtures		(NA)	(X)	622.0	(X)	348.5
	Motor vehicle incandescent lighting equipment:						
	Spot, fog, and auxiliary equipment:						
36470 01	Shipments for domestic replacement		15	(X)	27.2		
36470 03	Shipments to U.S. motor vehicle manufacturers for use in original equipment		16	(X)	24.6	(X)	26.3
36470 05	Shipments for export		8	(X)	1.9		
	Other motor vehicle lighting equipment, including parking light, dome light, and tail light fixtures:						
36470 22	Shipments for domestic replacement		18	(X)	81.6	(X)	13 73.5
36470 23	Shipments to U.S. motor vehicle manufacturers for use in original equipment		20	(X)	416.9	(X)	206.3
36470 24	Shipments for export		9			(X)	(13)
36470 29	Other than motor vehicle lighting equipment, including fluorescent fixtures, such as aircraft, watercraft, railway locomotive, railroad car, streetcar, etc		19	(X)	59.7	(X)	41.0
36470 39	Components and renewal parts for vehicular lighting, sold separately		9	(X)	10.2	(X)	1.4
36470 02	Vehicular lighting equipment, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	4.3	(X)	1.6

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	LIGHTING EQUIPMENT, N.E.C.						
3648- --	Total	.....	(NA)	(X)	674.7	(X)	488.0
	Outdoor lighting equipment, including parts:						
36485 --	As reported in census of manufactures	.....	85	(X)	392.0	(X)	316.5
	As reported in Current Industrial Reports MA-36L, Electric Lighting Fixtures	.....	(NA)	(X)	366.9	(S)	307.0
36485 11	Street and highway lighting luminaries, including bridge and tunnel lighting:						
	Incandescent (filament and quartz iodine)	Thousands	12	43	1.2	(S)	4.6
	Mercury and other high-intensity discharge types, including integrally mounted and remote ballasts:						
36485 13	Open		13	798	19.7	(S)	24.7
36485 14	Enclosed		14	709	46.7	.9	45.1
36485 15	Fluorescent		19	33	2.4	(S)	4.2
36485 16	Special purpose luminaries for highmast or tower lighting, excluding value of poles		7	5	.8	(X)	(14)
	Floodlighting, area, sports, and site lighting luminaries:						
	General purpose floodlighting:						
36485 20	Incandescent, filament		19	113	3.9		
36485 22	Incandescent, quartz iodine		18	498	8.6		
36485 24	Mercury and other high-intensity discharge types, including integrally mounted and remote ballasts		30	627	72.2		
36485 26	Fluorescent		10	57	4.8		
36485 28	Special purpose lighting, including sign lighting, service station island lighting, and underwater fountain and pool lighting		11	122	6.4	(S)	117.8
	Area and site lighting:						
36485 29	Site lighting, under 20 foot mounting		26	181	17.4		
36485 30	Large area lighting 20-60 foot mounting		19	155	20.9		
36485 32	Building mounted (such as high intensity discharge, incandescent, and quartz)		19	143	12.2		
36485 34	Outdoor PAR lampholders	Thousands	12	2,897	10.5		
	Aviation ground lighting equipment for fixed based airports:						
36485 31	Runway approach lighting, including fixtures, regulators, insulating transformers, isolating lamp transformers, beacons, wind tees, and cones	.....	8	(X)	3.4	(X)	1.5
36485 33	Runway, except runway approach, taxiway, and ramp lighting, including fixtures, regulators, and isolating lamp transformers	.....	6	(X)	(D)	(X)	6.2
	Poles, standards, newels, brackets, and accessories:						
	For street and highway lighting:						
36485 36	Steel poles with brackets	.....	9	(X)	17.2		
36485 38	Aluminum poles with brackets	.....	6	(X)	16.8	(X)	37.2
36485 40	Concrete poles with brackets	.....	1	(X)	(D)		
36485 37	Brackets for wood poles	.....	8	(X)	2.2	(X)	3.3
	For area lighting, sports, and other off-street use:						
36485 46	Steel poles with brackets (60 foot and over)	.....	11	(X)	4.1		
36485 47	Steel poles with brackets (under 60 foot)	.....	19	(X)	14.8	(X)	24.5
36485 48	Aluminum poles with brackets	.....	18	(X)	10.6		
36485 49	Concrete and other nonwood poles with brackets	.....	2	(X)	(D)		
	Other floodlighting and area lighting equipment:						
36485 43	Spotlights, including indoor and stage, but excluding vehicular	Thousands	15	247	12.3	(S)	6.5
36485 45	All other outdoor lighting equipment	.....	30	(X)	28.2	(X)	[14]15.8
36485 98	Components and renewal parts for outdoor lighting, sold separately	.....	24	(X)	14.6	(X)	15.7
36489 --	Other electric and nonelectric lighting equipment, including hand portable equipment, and parts and accessories	.....	(NA)	(X)	222.5	(X)	164.7
	Incandescent hand portable lighting equipment, except parts:						
36489 11	Flashlights and flashlight lanterns (one to five cells)	.....	18	(X)	74.0	(X)	41.2
36489 19	Other, such as miners' lights, emergency warning lights, and generator flashlights, etc	.....	12	(X)	26.5	(X)	29.4

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	LIGHTING EQUIPMENT, N.E.C.--Con.						
36489 --	Other electric and nonelectric lighting equipment, including hand portable equipment, and parts and accessories--Con.						
36489 21	Other electric lighting equipment, including electrical discharge, such as mercury vapor (other than street and highway lighting equipment), sodium vapor, etc., excluding signs	.....	10	(X)	11.0	(X)	18.9
36485 31	Other incandescent electric lighting equipment, including marine markers or beacons, railway route lighting equipment, etc.	.....	23	(X)	37.6	(X)	10.2
36489 75	Other fluorescent lighting equipment, complete units, including processing and technical equipment	.....	8	(X)	8.4	(X)	3.9
36489 91	Ultraviolet and infrared health lamp fixtures, excluding lamp bulbs, sold separately	.....	5	(X)	([15])	(X)	2.2
36489 70	Parts and accessories for other electric lighting fixtures, n.e.c.	.....	6	(X)	8.4	(X)	9.8
	Nonelectric lighting equipment, including parts:						
36489 83	Lamps and lanterns, including kerosene, gasoline, propane, butane, etc.	.....	6	(X)	([15])	(X)	22.6
36489 87	Other nonelectric lighting fixtures and equipment, complete units, including carbide lamps of all types	.....	5	(X)	[15]38.2		
36489 85	Parts and accessories for nonelectric lighting equipment, including reflectors and fittings, incandescent mantles, etc.	.....	6	(X)	6.3	(X)	7.5
36489 00	Other electric and nonelectric lighting equipment, including hand portable equipment, and parts and accessories, n.s.k.	.....	(NA)	(X)	12.1	(X)	19.0
36480 00	Lighting equipment, n.e.c., n.s.k., typically for establishments with 5 employees or more	.....	(NA)	(X)	42.9	(X)	1.6
36480 02	Lighting equipment, n.e.c., n.s.k., typically for establishments with less than 5 employees	.....	(NA)	(X)	17.4	(X)	5.2

Note: In 1977 Census of Manufactures, shipments data for establishments of small companies, typically those with less than 5 employees, were estimated from administrative records data rather than collected from respondents. These shipments figures (discussed in the introduction) are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded to appropriate product class (5 digits) followed by "00," or in some cases to appropriate industry (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Total data for 1977 and 1972 are from 1977 Census of Manufactures as well as Current Industrial Report MQ-36B. Product detail was collected on CIR form MA-36B.

[2]For 1972, product code 36410 00 was included with product code 36410 10.

[3]Excludes christmas tree lamps.

[4]For 1977, product codes 36410 63 and 36410 00 were combined to avoid disclosing operations of individual companies.

[5]Over 50 percent estimated.

[6]25 to 50 percent estimated.

[7]10 to 25 percent estimated.

[8]Included with 36430 38 in 1972.

[9]Product code 36430 59 was included with 36430 34, 36430 35, and 36430 38.

[10]For 1972, product codes 36451 69 and 36457 73 were combined to avoid disclosing operations of individual companies.

[11]For 1972, data for product codes 36462 69 and 36463 29 was not collected separately.

[12]For 1972, data for product codes 36463 16 and 36463 29 were combined to avoid disclosing operations of individual companies.

[13]For 1972, product code 36470 24 was combined with 36470 22 to avoid disclosing operations of individual companies.

[14]For 1972, product codes 36485 16 and 36485 45 were combined to avoid disclosing operations of individual companies.

[15]For 1977, product codes 36489 91, 36489 83, and 36489 87 were combined to avoid disclosing operations of indivdual companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36441, ELECTRICAL TRANSMISSION LINE AND POLE HARDWARE		
United States	276.2	222.3
Middle Atlantic Division:		
Pennsylvania	29.3	27.4
East South Central Division:		
Alabama	17.5	13.2
Pacific Division:		
California	21.9	10.4
36442, ELECTRICAL METAL CONDUIT AND CONDUIT FITTINGS		
United States	634.4	393.7
New England Division:		
Connecticut	46.7	23.6
Middle Atlantic Division:		
New York	92.1	66.8
Pennsylvania	90.8	FF
East North Central Division:		
Ohio	48.5	31.0
Illinois	95.6	65.6
South Atlantic Division:		
Georgia	12.2	(NA)
Pacific Division:		
California	50.9	FF
36443, OTHER NONCURRENT-CARRYING WIRING DEVICES AND SUPPLIES, N.E.C.		
United States	342.7	195.9
Middle Atlantic Division:		
New York	32.8	16.2
Pennsylvania	20.2	EE
East North Central Division:		
Ohio	20.5	BB
Illinois	81.9	41.6
36451, LIGHTING FIXTURES, RESIDENTIAL EXCEPT PORTABLE		
United States	461.0	291.9
Middle Atlantic Division:		
New York	41.9	FF
New Jersey	33.7	32.6
Pennsylvania	82.6	50.3
East North Central Division:		
Ohio	41.0	30.7
Illinois	31.2	19.1
South Atlantic Division:		
Georgia	12.5	BB
West South Central Division:		
Texas	14.1	3.5
Pacific Division:		
California	101.5	GG
36457, LIGHTING FIXTURES, PORTABLE RESIDENTIAL		
United States	389.6	320.9
New England Division:		
Connecticut	15.1	1.6
Middle Atlantic Division:		
New York	88.0	71.1
New Jersey	50.4	31.4
Pennsylvania	48.5	62.4
East North Central Division:		
Ohio	14.6	8.6
Illinois	64.9	56.2
South Atlantic Division:		
Florida	7.6	6.6
West South Central Division:		
Arkansas	4.9	BB
Pacific Division:		
California	43.5	FF
36462, LIGHTING FIXTURES, COMMERCIAL AND INSTITUTIONAL		
United States	653.6	527.2
New England Division:		
Massachusetts	19.2	17.4
Middle Atlantic Division:		
New York	49.8	40.7
New Jersey	44.8	56.0
Pennsylvania	71.3	55.9
East North Central Division:		
Ohio	27.2	29.6
Illinois	66.7	36.6
Wisconsin	2.8	1.6
West North Central Division:		
Missouri	12.7	FF
West South Central Division:		
Texas	14.2	EE
Pacific Division:		
California	74.0	75.7
36463, LIGHTING FIXTURES, INDUSTRIAL		
United States	243.0	162.6
New England Division:		
Massachusetts	6.3	CC
Middle Atlantic Division:		
New Jersey	19.9	5.1
Pennsylvania	27.7	22.7
East North Central Division:		
Ohio	25.4	19.3
Illinois	7.3	11.2
West North Central Division:		
Missouri	9.9	6.2
West South Central Division:		
Texas	10.8	7.2
Pacific Division:		
California	12.3	CC
36485, OUTDOOR LIGHTING EQUIPMENT, INCLUDING PARTS		
United States	392.0	316.5
Middle Atlantic Division:		
New York	17.6	17.8
New Jersey	26.7	48.3
Pennsylvania	6.3	7.1
East North Central Division:		
Ohio	52.6	52.2
Illinois	29.3	26.6
Wisconsin	18.6	EE
West South Central Division:		
Texas	22.0	EE
Pacific Division:		
California	46.8	FF
36489, OTHER LIGHTING EQUIPMENT, N.E.C.		
United States	222.4	164.7
New England Division:		
Massachusetts	40.0	FF
Middle Atlantic Division:		
New York	12.7	12.0
New Jersey	16.2	6.9
East North Central Division:		
Ohio	9.3	3.4
Illinois	23.0	22.6
Wisconsin	5.5	(NA)
West South Central Division:		
Texas	3.4	BB
Pacific Division:		
California	23.4	EE

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
36410	Lamp bulbs	1,630.2	1,477.4	1,224.6	1,199.3	1,165.9	1,069.1	756.4	545.9
36430	Current-carrying wiring devices, including lightning rods	1,824.9	1,589.0	1,240.2	1,524.0	1,417.1	1,206.8	789.8	561.8
3644-	Noncurrent-carrying wiring devices	1,315.5	1,171.1	1,074.2	1,252.2	1,018.7	832.7	548.6	439.3
36441	Electrical transmission line and pole hardware	276.2	297.7	295.5	307.3	252.7	222.3	130.2	97.9
36442	Electrical metal conduit and conduit fittings	634.4	557.8	522.0	663.7	489.7	393.7	306.9	242.2
36443	Other noncurrent-carrying wiring devices and supplies, n.e.c	342.7	307.7	243.1	273.9	256.0	195.9	98.6	92.8
36440	Noncurrent-carrying wiring devices, n.s.k	62.2	(7.9)	(13.6)	7.3	20.3	20.8	12.8	6.4
3645-	Residential lighting fixtures	974.6	782.4	640.3	686.3	799.7	746.1	457.8	363.9
36451	Lighting fixtures, residential except portable	461.0	388.1	289.0	318.8	337.4	291.9	190.5	158.8
36457	Lighting fixtures, portable residential	389.6	357.6	328.0	324.8	358.2	320.9	176.3	160.2
36450	Residential lighting fixtures, n.s.k	124.0	(36.7)	(23.3)	(42.7)	104.1	133.3	[2]91.0	[2]44.9
3646-	Commercial lighting fixtures	935.0	858.8	795.8	772.7	765.7	701.8	([2])	([2])
36462	Lighting fixtures, commercial and institutional	653.6	625.1	576.8	562.4	571.9	527.2	385.4	299.2
36463	Lighting fixtures, industrial	243.0	225.9	209.0	203.6	178.7	162.6	120.6	76.1
36460	Commercial lighting fixtures, n.s.k	38.4	(7.8)	(10.0)	(6.7)	15.1	12.0	([2])	([2])
36470	Vehicular lighting equipment	646.1	547.1	414.6	403.4	409.7	358.1	226.1	157.4
3648-	Lighting equipment, n.e.c	674.7	557.6	515.5	551.2	558.4	488.0	([2])	([2])
36485	Outdoor lighting equipment, including parts	392.0	360.1	345.6	352.3	352.0	316.5	199.2	134.8
36489	Other lighting equipment, n.e.c	222.4	203.4	178.6	198.7	200.6	164.7	122.6	84.7
36480	Lighting equipment, n.e.c., n.s.k	60.3	([3])	([3])	(X)	5.8	6.8	([2])	([2])

n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors, exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Prior to 1972, value of products not specified by kind (n.s.k.) for industries 3646 and 3648 were included in industry 3645.

[3]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3641, ELECTRIC LAMPS					
	Materials, parts, containers, and supplies	.....	(X)	539.3	(X)	344.8
335105	Copper and copper-base alloy mill shapes and forms	Million lb.	**27.9	7.6	(S)	5.4
320313	Glass and glass products, including lamp bulb blanks	.....	(X)	179.6	(X)	94.8
260091	Paper and paperboard containers	.....	(X)	49.0	(X)	27.1
281900	Industrial inorganic chemicals	.....	(X)	33.0	(X)	[2]27.0
335005	Nonferrous metal wire	.....	(X)	85.7	(X)	184.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	166.5		
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	17.9	(X)	6.4
	INDUSTRY 3643, CURRENT-CARRYING WIRING DEVICES					
	Materials, parts, containers, and supplies	.....	(X)	654.7	(X)	426.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	1.3	1.8	.5
331012	Sheet and strip		30.9	13.3	44.2	11.4
331017	Wire and wire products		19.2	6.5	17.9	4.2
331019	All other carbon steel mill shapes and forms		(S)	.9	2.2	.7
331020	Alloy steel, except stainless		(S)	2.0	.9	.4
	Stainless steel:					
331033	Sheet and strip		(S)	2.7	2.3	2.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	1.0	1.3	2.9
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content)	*9.6	26.1	(S)	6.9
335793	Aluminum	Mil. lb. (aluminum content)	(D)	(D)		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.	(S)	6.6	24.6	16.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		**13.2	16.0	10.4	9.9
335143	Plate, sheet, and strip, including military cups and discs		(S)	66.8	42.6	45.0
335152	Pipe and tube		(S)	4.2	4.0	3.9
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		6.5	6.5	17.0	7.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		8.4	8.8	10.1	5.8
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.	1.8	2.2	1.9	.7
335609	Nonferrous metal, except copper and aluminum	.....	(X)	4.2	(X)	36.0
	Refinery shapes:					
333122	Copper and copper-base alloy	1,000 s. tons	(S)	11.3	4.5	5.2
333401	Aluminum and aluminum-base alloy		(D)	(D)	(D)	(D)
333348	Zinc and zinc-base alloy		(D)	(D)	-	-
	Scrap:					
999812	Copper and copper-base alloy		(D)	(D)	(D)	(D)
999808	Aluminum and aluminum-base alloy		(D)	(D)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*.5	.8	.4	.4
	Produced and consumed	1,000 s. tons	-	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	(S)	7.1	4.5	5.8
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		**2.6	5.8	4.3	5.3
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)
367408	Semiconductors	Millions	19.3	6.4	15.5	3.4
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.	**70.9	41.7	70.1	21.8
307903	Plastics products consumed in the form of sheets, rods, tubes, and shapes	.....	(X)	24.5	(Z)	(4)
364300	Current-carrying wiring devices	.....	(X)	15.8	(X)	[3]53.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	24.2	(X)	[3]13.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	231.0	(X)	[4]116.8
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	103.2	(X)	41.9

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3644, NONCURRENT-CARRYING WIRING DEVICES					
	Materials, parts, containers, and supplies	.....	(X)	598.1	(X)	349.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	53.8	19.4	96.9	16.7
331012	Sheet and strip	1,000 s. tons	490.5	153.9	477.6	91.1
331017	Wire and wire products	1,000 s. tons	(S)	5.5	11.6	3.8
331019	All other carbon steel mill shapes and forms	1,000 s. tons	150.8	62.1	226.7	45.3
331020	Alloy steel, except stainless	1,000 s. tons	(S)	5.0	1.1	.4
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	(S)	1.1	1.2	1.3
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	.4	.3	.5
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper cont nt)	1.4	2.1	(S)	5.2
335793	Aluminum	Mil. lb. (aluminum content)	(D)	(D)		
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb	(D)	(D)	1.6	1.1
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	*1.4	1.9	.8	.7
335143	Plate, sheet, and strip, including military cups and discs	Million lb	(S)	1.5	5.7	5.4
335152	Pipe and tube	Million lb	(S)	.3	.7	1.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb	2.1	1.9	5.4	2.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.	Million lb	7.6	5.7	4.5	2.4
335008	All other aluminum and aluminum-base alloy mill shapes and forms (wire, rolled rod and bar, powder, and welded tubing, etc.)	Million lb	(S)	6.6	7.4	3.3
335609	Nonferrous metal, except copper and aluminum	.....	(X)	(D)	(X)	[2]4.0
	Refinery shapes:					
333122	Copper and copper-base alloy	1,000 s. tons	(D)	(D)	3.4	2.6
333401	Aluminum and aluminum-base alloy	1,000 s. tons	1.8	1.1	6.6	3.1
333348	Zinc and zinc-base alloy	1,000 s. tons	5.3	4.1	25.1	9.2
	Scrap, excluding home scrap:					
999812	Copper and copper-base alloy	1,000 s. tons	(D)	(D)	(D)	(D)
999808	Aluminum and aluminum-base alloy	1,000 s. tons	(S)	2.6	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	(S)	10.2	10.1	7.8
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	14.6	9.9	7.7
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased	Million lb	(D)	(D)	1.4	1.4
	Produced and consumed	Million lb	(D)	(X)	(S)	(X)
367408	Semiconductors	Millions	(D)	(D)	(X)	([5])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	**42.8	17.5	(S)	5.2
307903	Plastics products consumed in the form of sheets, rods, tubes, and shapes	.....	(X)	4.5	(X)	([5])
364300	Current-carrying wiring devices	.....	(X)	2.5	(X)	[2]3.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	16.6	(X)	[2]22.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	121.9	(X)	[3]90.1
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	119.8	(X)	11.6
	INDUSTRY 3645, RESIDENTIAL LIGHTING FIXTURES					
	Materials, parts, containers, and supplies	.....	(X)	445.6	(X)	344.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	([6])	([6])	.5	.1
331012	Sheet and strip	1,000 s. tons	**19.4	8.6	37.0	8.4
331013	Plates	1,000 s. tons	([6])	([6])	([7])	([7])
331015	Structural shapes	1,000 s. tons	(S)	3.2	([7])	([7])
331017	Wire and wire products	1,000 s. tons	(S)	2.7	5.8	1.6
331019	All other carbon steel mill shapes and forms	1,000 s. tons	[6](S)	[6]6.6	[7]8.3	[7]6.1
331020	Alloy steel, except stainless	1,000 s. tons	(S)	1.9	.6	.6
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	(S)	.5	(S)	.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content)	(S)	6.1	(S)	5.0
335793	Aluminum	Mil. lb. (aluminum content)				
335770	Magnet wire	Million lb	(S)	.2		
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb	(S)	1.1	.4	.6
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb			.3	.4
335143	Plate, sheet, and strip, including military cups and discs	Million lb	**1.1	1.5	1.4	1.5
335152	Pipe and tubes	Million lb	**1.0	1.1	2.0	1.8

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3645, RESIDENTIAL LIGHTING FIXTURES--Con.					
	Mill shapes and forms, except castings--Con.					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.	(S)	2.1	4.3	2.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.		(S)	1.6	3.1	1.1
335008	All other aluminum mill shapes and forms (wire, rolled rod, and bar, powder, welded tubing, etc.)	Million lb.	(S)	.4	(X)	(Z)
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons	(S)	.1	(S)	.3
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(S)	4.4	8.4	2.9
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	2.8	(S)	1.9
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	**8.4	6.1	12.5	5.2
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	3.2	.6	1.2
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)
307903	Plastics products consumed in the forms of sheets, rods, tubes, and other shapes		(X)	8.6	(X)	([8])
282104	Plastics resins consumed in the forms of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.	(S)	.7	(S)	4.1
265001	Paperboard boxes and containers, including folding, corrugated, fiber, and setup	1,000 s. tons	(S)	19.6		
307902	Fabricated plastics products, except gaskets		(X)	2.7		
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	8.4		
361201	Specialty transformers and fluorescent ballasts		(X)	6.6	(X)	[8]206.3
364300	Current-carrying wiring devices		(X)	14.0		
970099	All other materials and components, parts, containers, and supplies		(X)	169.2		
971000	Materials, parts, containers, and supplies, n.s.k.[5]		(X)	161.6	(X)	92.4
	INDUSTRY 3646, COMMERCIAL LIGHTING FIXTURES					
	Materials, parts, containers, and supplies		(X)	470.6	(X)	359.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	.8	.2	.1
331012	Sheet and strip		(S)	53.6	227.3	43.8
331013	Plates		(S)	.1	([9])	([9])
331015	Structural shapes		(S)	([10])	([9])	([9])
331017	Wire and wire products		(S)	.1	.8	.4
331019	All other carbon steel mill shapes and forms		(S)	[10]3.6	[2]4.9	[2]1.5
331020	Alloy steel, except stainless		**5.3	2.1	(S)	2.6
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	(D)	(D)	(S)	.9
331050	All other stainless steel mill shapes and forms					
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content).				
335793	Aluminum	Mil. lb. (aluminum content)	(S)	3.1	(S)	3.2
335770	Magnet wire	Million lb.				
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		(S)	.4	(S)	.3
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	.3	.1	.1
335143	Plate, sheet, and strip, including military cups and discs		(S)	.1	(S)	.2
335152	Pipe and tube		(S)	.1	.1	.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	8.3	8.1	4.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.		(S)	7.0	13.2	6.2
335008	All other aluminum mill shapes and forms (wire, rolled rod, and bar, powder, welded tubing, etc.)	Million lb.	(S)	.1	.5	.7
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons	2.1	2.0	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(S)	.8	(S)	.6
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	(S)	5.0	7.5	4.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3646, COMMERCIAL LIGHTING FIXTURES--Con.					
	Mill shapes and forms, except castings--Con.					
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	25.5		
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	*12.2	7.5		
265001	Paperboard boxes and containers, including folding, corrugated, fiber, and setup	1,000 s. tons..	(S)	17.9		
307902	Fabricated plastics products, except gaskets	.....	(X)	1.7	(X)	249.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	8.7		
361201	Specialty transformers and fluorescent ballasts	.....	(X)	103.3		
364300	Current carrying wiring devices	.....	(X)	15.7		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	87.8		
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	99.2	(X)	39.2
	INDUSTRY 3647, VEHICULAR LIGHTING EQUIPMENT					
	Materials, parts, containers, and supplies	.....	(X)	367.6	(X)	196.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..				
331012	Sheet and strip					
331013	Plates					
331015	Structural shapes		44.6	29.3	76.7	17.4
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms					
331020	Alloy steel, except stainless					
	Stainless steel:					
331033	Sheet and strip		3.7	7.2	2.1	2.3
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	.1	.2	-	-
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content).				
335793	Aluminum	Mil. lb. (aluminum content)	(S)	4.1	(S)	1.6
335770	Magnet wire	Million lb.....				
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction		-	-	(S)	.1
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		**1.6	2.9	1.5	1.0
335143	Plate, sheet, and strip, including military cups and discs		**.6	.8	.7	.6
335152	Pipe and tubes		(D)	(D)	.1	.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	2.9	1.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	.6	.9	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(D)	(D)	(S)	.1
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons..	-	-	-	-
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(D)	(D)	.4	.4
	Produced and consumed		(D)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons..	(D)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	.8	1.2	.9	.7
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	Million lb.....	(D)	(X)	(S)	(X)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	10.4	(X)	([11])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	66.0	39.7	39.0	12.0
265001	Paperboard boxes and containers, including folding, corrugated, fiber, and setup	1,000 s. tons..	(S)	8.9		
307902	Fabricated plastics products, except gaskets	.....	(X)	4.2		
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	11.6		
361201	Specialty transformers and fluorescent ballasts	.....	(X)	.5	(X)	[11]147.8
364300	Current-carrying wiring devices	.....	(X)	7.9		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	206.4		
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	19.7	(X)	10.1

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3648, LIGHTING EQUIPMENT, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	300.5	(X)	197.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	.8	2.4	.6
331012	Sheet and strip		(S)	9.4	21.1	5.9
331013	Plates		*8.8	3.9	5.5	1.5
331015	Structural shapes		**3.4	1.9	5.9	2.1
331017	Wire and wire products		(S)	1.1	1.4	.6
331019	All other carbon steel mill shapes and forms		(S)	1.1	4.9	1.9
331020	Alloy steel, except stainless		**7.6	4.9	9.9	4.1
	Stainless steel:					
331033	Sheet and strip		(S)	2.1	.8	.9
331050	All other stainless steel mill shapes and forms	1,000 s. tons..			.1	.1
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	**3.3	2.9		
335793	Aluminum	Mil. lb (aluminum content)	.3	.5	(S)	4.2
335770	Magnet Wire	Million lb.....	2.2	2.4		
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction		(S)	.1	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes				.1	.1
335143	Plate, sheet, and strip, including military cups and discs		(S)	1.6	.8	.9
335152	Pipe and tubes		(S)	.2	.1	.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	13.2	13.4	6.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	17.0	27.2	13.8
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	.7	1.3	.8
333401	Aluminum and aluminum-base alloy refinery shapes	1,000 s. tons..	6.5	5.4	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*.4	.6	.4	.4
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	.8	1.3	1.1
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	21.7	18.6	15.7
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	.8	.6	.6
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	4.6	(X)	([11])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	6.4	4.8	5.8	2.0
265001	Paperboard boxes and containers, including folding, corrugated, fiber, and setup	1,000 s. tons..	(S)	8.4		
307902	Fabricated plastics products, except gaskets	.....	(X)	8.1		
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	5.1		
361201	Specialty transformers and fluorescent ballasts	.....	(X)	13.4	(X)	[11]114.4
364300	Current-carrying wiring devices	.....	(X)	5.3		
970099	All other materials and components, parts, containers, and supplies	.....	(X)	119.8		
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	37.9	(X)	15.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material code 307903 was included with material code 970099.

[5]For 1972, material codes 367408 and 307903 were included with material code 970099.

[6]For 1977, material codes 331011, 331013, and 331019 were combined to avoid disclosing operations of individual companies.

[7]For 1972, material codes 331013, 331015, and 331019 were combined to avoid disclosing operations of individual companies.

[8]For 1972, material codes 307903, 265001, 307902, 345001, 361201, 364300, and 970099 were combined.

[9]For 1972, material codes 331013 and 331015 were included with material code 331019 to avoid disclosing operations of individual companies.

[10]For 1977, material code 331015 was combined with material code 331019 to avoid disclosing operations of individual companies.

[11]For 1972, material code 307903 was combined with material codes 265001, 307902, 345001, 361201, 364300, and 970099.

Communication Equipment, Including Radio and TV

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DESCRIPTION OF INDUSTRIES

COMMUNICATION EQUIPMENT, INCLUDING RADIO AND TV

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3651 Radio and TV Receiving Sets
3652 Phonograph Records and Prerecorded Tape
3661 Telephone and Telegraph Apparatus
3662 Radio and TV Communication Equipment

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry, and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3651, RADIO AND TV RECEIVING SETS

This industry comprises establishments primarily engaged in the manufacture of electronic equipment for home entertainment. This industry also includes establishments primarily engaged in the manufacture of public address systems and music distribution apparatus. Establishments primarily engaged in the manufacture of records are classified in industry 3652, radio and television receiving-type tubes in industry 3671, and television receiving-type cathode-ray tubes in industry 3672.

The total value of shipments for establishments classified in the Radio and TV Receiving Sets industry amounted to $5,733 million in 1977, an increase of 29 percent from 1972. The value of shipments of products classified as primary to the industry was $4,731 million, an increase of 31 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were consumer high fidelity components, for which shipments increased 50 percent, and loudspeakers and speaker systems sold separately, for which shipments increased 203 percent. Value added by manufacture, at $2,352 million in 1977, was 30 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 74.6 thousand employees, a decrease of 14 percent from 1972. The leading States in employment were Indiana, Illinois, Tennessee, and California, accounting for approximately 60 percent of the industry's 1977 employment. Data for Indiana and Tennessee have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of radio and television receiving sets only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of radio and television receiving sets are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36M, Radio Receivers and Television Sets; Phonographs and Record Players, Speakers and Related Equipment. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3652, PHONOGRAPH RECORDS AND PRERECORDED TAPE

This industry comprises establishments primarily engaged in the manufacture of phonograph records and prerecorded magnetic tape. Establishments primarily engaged in the manufacture of electronic equipment for home entertainment, except records are classified in industry 3651. Establishments primarily engaged in the manufacture of blank magnetic recording tape are classified in industry 3679.

The total value of shipments for establishments classified in the Phonograph Records and Prerecorded Tape industry amounted to $1,182 million in 1977, an increase of 108 percent from 1972. The value of shipments of products classified as

primary to the industry was $1,139 million, an increase of 112 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were prerecorded audio tapes, for which shipments increased 106 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $727 million in 1977, was 94 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 23.1 thousand employees, an increase of 14 percent from 1972. The leading States in employment were New York, New Jersey, Indiana, and California. Data for Indiana have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 3661, TELEPHONE AND TELEGRAPH APPARATUS

This industry comprises establishments primarily engaged in the manufacture of wire telephone and telegraph equipment and parts especially designed for telephone and telegraph use.

The total value of shipments for establishments classified in the Telephone and Telegraph Apparatus industry amounted to $7,858 million in 1977, an increase of 74 percent from 1972. The value of shipments of products classified as primary to the industry was $7,119 million, an increase of 79 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were telephone switching and switchboard equipment, for which shipments increased 80 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $4,192 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 124.4 thousand employees, a decrease of 8 percent from 1972. The leading States in employment were Massachusetts, Indiana, Illinois, and California, accounting for approximately 45 percent of the industry's 1977 employment. Data for Massachusetts and Indiana have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of telephone and telegraph apparatus only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of telephone and telegraph apparatus are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3662, RADIO AND TELEVISION COMMUNICATION EQUIPMENT.

This industry comprises establishments primarily engaged in the manufacture of (1) radio and television broadcasting equipment; (2) electric communication equipment and parts, except telephone and telegraph; (3) electronic field detection apparatus, light and heat emission operating apparatus, object detection apparatus and navigational electronic equipment, and aircraft and missile control systems; (4) high-energy particle accelerator systems and equipment designed and sold as a complete package for radiation therapy, irradiation, radio-graphic inspection, and research (linear accelerators, betatrons, dynamotrons, Vandergraff generators, resonant transformers, insulating core transformers, etc.); (5) high-energy particle electronic equipment and accessories sold separately for the construction of linear accelerators, cyclotrons, synchrotrons, and other high-energy research installations (transmitters/modulators, accelerating waveguide structures, pulsed electron guns, vacuum systems, cooling systems, etc.); and (6) other electric and electronic communication and signaling products, not elsewhere classified. Establishments primarily engaged in the manufacture of transmitting tubes are classified in industry 3673.

The total value of shipments for establishments classified in the Radio and Television Communication Equipment industry amounted to $14,901 million in 1977, an increase of 63 percent from 1972. The value of shipments of products classified as primary to the industry was $14,051 million, an increase of 68 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were intercommunication equipment, for which shipments increased 153 percent. Value added by manufacture, at $9,950 million in 1977, was 72 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 334.6 thousand employees, an increase of 5 percent from 1972. The leading States in employment were Massachusetts, New York, Texas, and California. Data for Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although

there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of radio and television communication equipment only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of radio and television communication equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3651, RADIO AND TV RECEIVING SETS																
1977 Census--	547	581	192	74.6	852.4	57.6	106.6	570.0	2 351.8	3 393.9	5 732.6	105.8	(NA)	835.0	94	98
1976 ASM----	(NA)	(NA)	(NA)	71.5	785.3	53.8	100.3	505.3	2 090.1	2 992.5	5 056.4	86.7	685.3	755.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	68.8	693.8	52.3	96.3	428.8	1 542.5	2 760.4	4 443.6	75.2	670.5	750.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	87.7	734.1	68.9	124.1	499.1	1 819.2	3 129.9	4 865.0	104.5	583.9	913.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	92.1	742.6	75.0	140.7	527.5	2 214.2	3 090.2	5 146.8	79.6	534.6	860.8	(NA)	(NA)
1972 Census--	344	372	164	86.5	651.4	69.8	132.4	453.6	1 807.8	2 715.4	4 440.1	58.6	525.0	664.9	95	99
1971 ASM----	(NA)	(NA)	(NA)	89.9	641.8	70.1	133.8	436.9	1 537.5	2 475.2	4 048.6	36.4	587.4	635.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	89.7	607.0	68.4	130.7	392.4	1 390.6	2 196.9	3 629.8	51.0	592.0	671.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	105.5	654.5	84.8	163.1	443.5	1 584.9	2 545.5	4 053.6	59.6	576.6	728.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	112.5	667.3	91.9	175.4	465.1	1 558.1	2 657.7	4 254.6	36.2	539.6	662.8	(NA)	(NA)
1967 Census--	303	340	187	116.7	643.6	96.2	183.4	462.6	1 404.5	2 486.0	3 846.3	86.1	528.2	726.0	94	99
1966 ASM----	(NA)	(NA)	(NA)	130.2	679.4	109.8	214.0	509.8	1 685.1	2 602.1	4 117.4	121.1	(NA)	756.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	100.1	535.1	83.1	166.2	393.2	1 249.4	1 983.1	3 207.5	58.8	(NA)	459.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	86.5	440.6	70.9	139.8	312.7	983.4	1 529.3	2 509.7	33.3	297.0	397.8	(NA)	(NA)
1963 Census--	322	348	178	81.3	411.9	66.5	128.5	289.3	912.0	1 389.4	2 254.9	30.5	276.9	381.4	91	96
INDUSTRY 3652, PHONOGRAPH RECORDS AND PRERECORDED TAPE																
1977 Census--	679	709	133	23.1	244.6	17.8	37.2	170.0	727.3	461.5	1 181.7	29.8	(NA)	121.3	99	99
1976 ASM----	(NA)	(NA)	(NA)	18.1	170.7	14.1	27.9	113.8	453.8	309.0	766.6	20.3	176.2	81.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.5	159.6	13.3	25.4	100.6	391.2	266.5	659.5	15.0	173.0	89.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	19.7	151.7	14.9	28.4	99.4	351.9	242.0	586.9	20.5	165.1	94.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	20.1	144.3	15.5	29.5	96.2	355.2	209.6	564.9	26.2	165.1	74.3	(NA)	(NA)
1972 Census--	538	567	119	20.3	146.5	15.8	30.8	100.1	375.6	191.5	567.7	16.9	150.2	67.5	98	99
1971 ASM----	(NA)	(NA)	(NA)	18.7	128.2	14.6	29.1	88.3	314.6	189.1	495.2	12.3	150.9	74.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.7	115.6	14.4	28.7	79.4	281.8	165.9	438.6	21.2	140.0	66.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	17.5	104.5	13.9	28.5	72.6	263.3	149.7	406.8	16.9	113.2	55.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	14.5	85.1	11.4	23.7	59.8	208.3	106.2	317.6	5.5	92.2	37.6	(NA)	(NA)
1967 Census--	306	321	73	13.6	76.6	11.0	22.2	54.0	182.3	95.2	276.4	7.1	93.8	38.7	99	99
1966 ASM----	(NA)	(NA)	(NA)	11.0	57.8	9.1	18.0	43.0	156.2	68.4	218.4	7.6	(NA)	32.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	10.1	52.2	8.3	16.8	37.5	140.7	64.1	201.4	7.3	(NA)	24.6	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	9.9	47.9	8.0	15.9	35.0	152.4	56.8	207.2	8.1	56.7	20.2	(NA)	(NA)
1963 Census--	128	167	60	9.6	47.0	7.6	15.0	33.0	125.4	54.1	180.2	8.7	49.6	19.9	99	97
INDUSTRY 3661, TELEPHONE AND TELEGRAPH APPARATUS																
1977 Census--	209	264	154	124.4	1 818.0	87.1	164.2	1 125.9	4 192.0	3 858.6	7 858.3	217.3	(NA)	1 503.3	94	97
1976 ASM----	(NA)	(NA)	(NA)	105.2	1 433.0	74.0	134.1	893.1	3 156.1	2 768.0	5 889.7	157.3	1 881.8	1 138.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	118.5	1 478.8	80.9	147.7	897.6	2 766.0	2 608.0	5 492.1	166.6	2 013.0	1 139.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	144.7	1 560.8	102.4	183.2	964.5	3 127.4	2 821.4	5 880.4	201.7	1 954.9	1 378.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	140.3	1 480.3	100.4	191.4	937.1	2 896.9	2 310.9	5 025.3	213.8	1 854.8	1 145.6	(NA)	(NA)
1972 Census--	158	203	110	134.4	1 323.0	94.7	176.4	821.8	2 650.1	1 970.3	4 524.7	169.2	1 745.1	856.1	91	98
1971 ASM----	(NA)	(NA)	(NA)	139.8	1 292.5	98.1	185.7	785.1	2 501.5	1 754.5	4 235.8	216.2	1 585.4	782.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	142.0	1 231.3	101.6	198.8	781.9	2 378.3	1 759.9	4 059.7	118.0	1 367.6	744.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	126.6	1 061.2	90.8	178.9	682.0	2 059.2	1 399.8	3 409.6	159.6	1 257.7	662.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	117.0	891.6	83.6	158.7	566.1	1 702.0	2 843.5	2 843.5	105.4	1 114.9	549.4	(NA)	(NA)
1967 Census--	82	106	63	115.4	827.9	83.2	158.8	534.4	1 536.7	1 082.7	2 591.2	110.4	1 056.1	536.4	88	96
1966 ASM----	(NA)	(NA)	(NA)	112.7	780.4	82.1	158.4	507.3	1 431.8	1 068.9	2 467.0	109.7	(NA)	485.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	102.2	705.4	75.3	150.1	469.3	1 361.5	966.4	2 272.6	89.9	(NA)	418.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	94.0	630.0	67.6	132.3	409.8	1 128.6	826.2	1 954.3	53.5	880.3	361.7	(NA)	(NA)
1963 Census--	65	90	56	89.5	554.4	64.0	122.7	358.7	1 013.8	704.2	1 736.4	55.1	854.9	331.4	95	95
INDUSTRY 3662, RADIO AND TV COMMUNICATION EQUIPMENT																
1977 Census--	1 873	2 122	973	334.6	5 181.0	172.8	336.0	2 104.5	9 950.0	5 180.2	14 900.5	471.8	(NA)	3 162.5	92	92
1976 ASM----	(NA)	(NA)	(NA)	316.3	4 616.9	159.3	314.4	1 814.3	8 499.6	4 744.7	13 248.3	355.5	2 924.8	2 823.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	315.9	4 234.8	159.7	310.5	1 674.8	7 558.4	4 420.5	11 911.0	255.5	2 669.3	2 699.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	318.5	3 931.5	160.3	315.2	1 563.3	6 851.5	3 847.1	10 574.5	270.0	2 513.9	2 538.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	323.4	3 765.8	163.2	321.6	1 504.9	6 466.5	3 475.8	9 725.9	228.9	2 537.4	2 311.5	(NA)	(NA)
1972 Census--	1 521	1 773	921	319.2	3 589.1	161.9	320.9	1 447.6	5 803.1	3 338.1	9 140.2	212.2	2 641.7	2 081.2	91	91
1971 ASM----	(NA)	(NA)	(NA)	325.1	3 458.0	153.6	300.2	1 298.7	5 437.8	3 079.3	8 749.5	191.4	2 310.3	2 058.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	390.0	3 786.9	185.7	366.5	1 452.4	5 905.4	3 257.7	9 299.3	254.7	2 352.9	2 275.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	412.8	3 956.9	203.9	409.6	1 549.5	6 169.7	3 488.1	9 653.1	267.4	2 141.7	2 459.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	424.3	3 828.7	219.0	443.6	1 584.2	6 122.1	3 712.6	9 560.0	302.2	1 999.1	2 427.8	(NA)	(NA)
1967 Census--	1 111	1 296	782	409.9	3 568.8	221.3	447.1	1 515.6	5 155.8	3 433.4	8 555.8	246.0	1 767.0	2 114.9	89	90
1966 ASM----	(NA)	(NA)	(NA)	373.4	3 086.8	205.1	415.5	1 335.6	4 855.3	3 032.0	7 562.6	187.9	(NA)	1 745.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	352.9	2 813.9	185.7	378.7	1 179.3	4 349.1	2 568.3	6 861.6	147.6	(NA)	1 430.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	353.3	2 638.7	181.7	367.6	1 170.1	4 258.1	2 318.0	6 510.2	124.5	1 319.6	1 301.4	(NA)	(NA)
1963 Census--	1 001	1 132	635	387.4	2 840.2	205.7	419.1	1 230.7	4 327.7	2 822.9	7 145.6	138.7	1 240.8	1 331.9	88	91

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3651, RADIO AND TV RECEIVING SETS											
1977 Census--	11 425	(NA)	77	1 850	5.34	59	74	(NA)	31 521	36	22.06
1976 ASM----	10 983	9 584	75	1 864	5.03	59	74	13	29 232	37	20.83
1975 ASM----	10 084	9 745	76	1 841	4.45	62	77	15	22 420	44	16.01
1974 ASM----	8 370	6 657	78	1 801	4.02	64	79	12	20 743	40	14.65
1973 ASM----	8 062	5 804	81	1 876	3.74	60	74	10	24 041	33	15.73
1972 Census--	7 530	6 069	80	1 896	3.42	61	75	11	20 899	36	13.65
1971 ASM----	7 139	6 533	77	1 908	3.26	61	76	14	17 102	41	11.49
1970 ASM----	6 767	6 599	76	1 910	3.00	60	77	16	15 502	43	10.63
1969 ASM----	6 203	5 465	80	1 923	2.71	62	78	14	15 022	41	9.71
1968 ASM----	5 931	4 796	81	1 908	2.65	62	78	12	13 849	42	8.88
1967 Census--	5 514	4 526	82	1 906	2.52	64	81	13	12 035	45	7.65
1966 ASM----	5 218	(NA)	84	1 948	2.38	63	79	(NA)	12 942	40	7.87
1965 ASM----	5 345	(NA)	83	2 000	2.36	61	78	(NA)	12 481	42	7.51
1964 ASM----	5 093	3 433	81	1 971	2.23	60	78	11	11 368	44	7.03
1963 Census--	5 066	3 405	81	1 932	2.25	61	79	12	11 217	45	7.09
INDUSTRY 3652, PHONOGRAPH RECORDS AND PRERECORDED TAPE											
1977 Census--	10 574	(NA)	77	2 086	4.56	39	59	(NA)	31 442	33	19.54
1976 ASM----	9 430	9 734	77	1 978	4.07	40	62	22	25 071	37	16.26
1975 ASM----	9 120	9 885	76	1 909	3.96	40	64	26	22 354	40	15.40
1974 ASM----	7 700	8 380	75	1 906	3.50	41	67	28	17 862	43	12.39
1973 ASM----	7 179	8 213	77	1 903	3.26	37	62	29	17 671	40	12.04
1972 Census--	7 216	7 399	77	1 949	3.25	33	59	26	18 502	39	12.19
1971 ASM----	6 855	8 069	78	1 993	3.03	38	64	30	16 823	40	10.81
1970 ASM----	6 181	7 486	77	1 993	2.76	37	64	31	15 069	41	9.81
1969 ASM----	5 971	6 468	79	2 050	2.54	36	62	27	15 045	39	9.23
1968 ASM----	5 868	6 358	78	2 078	2.52	33	60	29	14 365	40	8.78
1967 Census--	5 632	6 897	80	2 018	2.43	34	62	34	13 404	42	8.21
1966 ASM----	5 254	(NA)	82	1 978	2.38	31	57	(NA)	14 200	37	8.67
1965 ASM----	5 168	(NA)	82	2 024	2.23	31	57	(NA)	13 930	37	8.37
1964 ASM----	4 838	5 727	80	1 987	2.20	27	50	27	15 393	31	9.56
1963 Census--	4 895	5 166	79	1 973	2.20	30	56	27	13 062	37	8.36
INDUSTRY 3661, TELEPHONE AND TELEGRAPH APPARATUS											
1977 Census--	14 611	(NA)	70	1 884	6.85	49	72	(NA)	33 693	43	25.52
1976 ASM----	13 621	17 887	70	1 812	6.65	46	71	31	30 000	45	23.53
1975 ASM----	12 479	16 987	68	1 825	6.07	47	74	36	23 341	53	18.72
1974 ASM----	10 786	13 510	70	1 789	5.26	47	74	33	21 612	49	17.07
1973 ASM----	10 550	13 220	71	1 906	4.89	45	75	36	20 647	51	15.13
1972 Census--	9 843	12 984	70	1 862	4.65	43	72	38	19 718	49	15.02
1971 ASM----	9 245	11 340	70	1 892	4.22	41	71	37	17 893	51	13.47
1970 ASM----	8 671	9 630	71	1 956	3.93	43	73	33	16 748	51	11.96
1969 ASM----	8 382	9 934	71	1 970	3.81	41	72	36	16 265	51	11.51
1968 ASM----	7 620	9 529	71	1 898	3.56	100	131	39	14 547	52	10.72
1967 Census--	7 174	9 151	72	1 908	3.36	41	73	40	13 316	53	9.67
1966 ASM----	6 924	(NA)	72	1 929	3.20	43	74	(NA)	12 704	54	9.03
1965 ASM----	6 902	(NA)	73	1 993	3.12	42	73	(NA)	13 321	51	9.07
1964 ASM----	6 702	9 364	71	1 957	3.09	42	74	45	12 006	55	8.53
1963 Census--	6 194	9 551	71	1 917	2.92	40	72	49	11 327	54	8.26
INDUSTRY 3662, RADIO AND TV COMMUNICATION EQUIPMENT											
1977 Census--	15 486	(NA)	51	1 944	6.26	34	69	(NA)	29 741	52	29.61
1976 ASM----	14 596	9 246	50	1 973	5.77	35	70	22	26 871	54	27.03
1975 ASM----	13 405	8 449	50	1 944	5.39	37	72	22	23 926	56	24.34
1974 ASM----	12 343	7 892	50	1 966	4.95	36	73	23	21 511	57	21.73
1973 ASM----	11 644	7 846	50	1 970	4.67	35	74	26	19 995	58	20.10
1972 Census--	11 244	8 276	50	1 982	4.51	36	75	28	18 180	61	18.08
1971 ASM----	10 636	7 106	47	1 954	4.32	35	74	26	16 726	63	18.11
1970 ASM----	9 710	6 033	47	1 973	3.96	35	75	25	15 142	64	16.11
1969 ASM----	9 585	5 188	49	2 008	3.78	36	77	22	14 945	64	15.06
1968 ASM----	9 023	4 711	51	2 025	3.57	38	78	20	14 428	62	13.80
1967 Census--	8 706	4 310	53	2 020	3.38	40	81	20	12 578	69	11.53
1966 ASM----	8 266	(NA)	54	2 025	3.21	40	80	(NA)	13 002	63	11.68
1965 ASM----	7 973	(NA)	52	2 039	3.11	37	78	(NA)	12 323	64	11.48
1964 ASM----	7 468	3 735	51	2 023	3.18	35	76	20	12 052	61	11.58
1963 Census--	7 331	3 202	53	2 037	2.93	39	79	17	11 171	65	10.32

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3651, RADIO AND TV RECEIVING SETS														
United States	-	**581**	**192**	**74.6**	**852.4**	**57.6**	**106.6**	**570.0**	**2 351.8**	**3 393.9**	**5 732.6**	**105.8**	**86.5**	**1 807.8**
New England Division:														
Massachusetts	E2	33	14	2.8	29.3	1.9	4.5	14.0	87.7	81.3	168.9	(D)	2.4	40.7
Connecticut	-	10	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	70	26	3.6	32.3	2.7	4.9	19.8	92.4	106.6	182.6	2.5	(NA)	(D)
New Jersey	E1	25	9	1.5	12.0	1.1	2.1	7.1	27.7	35.2	63.1	0.9	0.7	9.0
Pennsylvania	-	14	8	3.5	27.6	3.3	6.0	24.2	45.7	111.3	157.8	(D)	(NA)	(D)
East North Central Division:														
Ohio	E1	12	2	0.5	3.4	0.4	0.5	2.2	6.7	7.0	16.9	(D)	(NA)	(D)
Indiana	-	14	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	50	22	15.6	182.3	10.9	19.4	104.3	599.7	967.8	1 584.0	16.6	24.5	561.8
Michigan	-	15	5	1.4	15.0	1.1	2.1	10.3	20.9	23.6	46.5	0.8	(NA)	(D)
Wisconsin	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	E1	18	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	8	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	9	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	E1	8	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	E1	7	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	3	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	3	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E3	23	5	0.4	3.8	0.3	0.4	2.1	6.8	5.7	12.5	0.4	(NA)	(NA)
East South Central Division:														
Kentucky	-	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	11	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	6	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	26	5	2.5	18.8	2.2	3.8	14.6	63.2	98.6	156.0	(D)	(NA)	(D)
Mountain Division:														
Arizona	-	7	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	9	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	131	33	7.1	70.2	5.1	9.3	40.6	181.1	303.8	487.3	5.6	(NA)	(D)
INDUSTRY 3652, PHONOGRAPH RECORDS AND PRERECORDED TAPE														
United States	-	**709**	**133**	**23.1**	**244.6**	**17.8**	**37.2**	**170.0**	**727.3**	**461.5**	**1 181.7**	**29.8**	**20.3**	**375.6**
New England Division:														
Maine	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	E1	145	26	2.9	30.8	2.1	4.1	16.9	125.2	62.4	185.9	2.3	(NA)	(D)
New Jersey	-	37	18	3.3	32.8	2.5	5.4	22.5	63.1	62.5	126.5	3.1	3.0	41.5
Pennsylvania	-	19	5	0.6	6.0	0.5	1.1	4.8	9.7	8.9	18.6	(D)	(NA)	(D)
East North Central Division:														
Indiana	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	26	9	1.5	15.5	1.3	2.5	11.5	28.9	24.1	50.9	1.6	1.8	43.5
Michigan	E2	12	4	0.3	2.1	0.2	0.3	1.3	5.2	5.2	10.3	0.2	(NA)	(D)
Wisconsin	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	4	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	11	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	23	4	0.2	1.9	0.2	0.3	1.3	4.2	3.7	7.8	0.3	0.2	2.4
East South Central Division:														
Tennessee	-	61	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	215	38	5.1	59.3	3.5	7.4	37.8	203.6	123.7	324.4	7.9	4.4	81.0
INDUSTRY 3661, TELEPHONE AND TELEGRAPH APPARATUS														
United States	-	**264**	**154**	**124.4**	**1 818.0**	**87.1**	**164.2**	**1 125.9**	**4 192.0**	**3 858.6**	**7 858.3**	**217.3**	**134.4**	**2 650.1**
New England Division:														
Massachusetts	-	6	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	9	5	1.0	13.3	0.6	1.1	5.4	27.0	19.7	46.0	(D)	1.0	13.0
Middle Atlantic Division:														
New York	-	26	15	3.8	55.9	2.0	3.1	18.3	72.1	55.1	143.5	4.3	(NA)	(D)
New Jersey	-	9	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	11	4	0.6	6.8	0.3	0.6	2.6	16.2	13.1	30.9	0.5	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3661, TELEPHONE AND TELEGRAPH APPARATUS—Con.														
East North Central Division:														
Ohio	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	4	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	29	20	29.0	454.9	18.0	33.4	249.0	970.2	1 094.4	2 008.8	40.9	(NA)	(D)
Wisconsin	-	6	2	0.5	4.4	0.4	0.8	3.5	2.4	11.1	13.3	0.1	(NA)	(D)
West North Central Division:														
Nebraska	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	8	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	6	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	11	5	1.3	13.5	0.7	1.3	5.8	22.4	25.3	41.3	1.7	(NA)	(D)
East South Central Division:														
Tennessee	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Louisiana	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	13	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	FF
Mountain Division:														
Colorado	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Mexico	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nevada	E3	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	12	5	0.7	7.6	0.4	0.8	3.3	13.9	16.4	29.9	(D)	(NA)	(D)
Oregon	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E1	58	38	9.1	112.4	5.1	9.7	48.8	266.7	157.1	416.2	16.2	(NA)	(D)
INDUSTRY 3662, RADIO AND TV COMMUNICATION EQUIPMENT														
United States	-	**2 122**	**973**	**334.6**	**5 181.0**	**172.6**	**336.0**	**2 104.5**	**9 950.0**	**5 180.2**	**14 900.5**	**471.8**	**319.2**	**5 803.1**
New England Division:														
Maine	-	6	4	0.4	4.9	0.3	0.7	3.3	9.1	8.3	17.7	(D)	0.6	8.8
New Hampshire	-	17	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	128	65	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Rhode Island	-	5	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	60	31	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	8.3	166.7
Middle Atlantic Division:														
New York	-	203	101	37.8	629.7	16.3	31.6	213.9	1 185.2	498.7	1 659.8	40.0	(NA)	(D)
New Jersey	-	121	52	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	88	36	6.6	86.0	3.8	7.3	41.2	177.7	111.2	284.0	9.6	(NA)	(D)
East North Central Division:														
Ohio	-	73	38	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	33	17	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	101	38	12.6	154.9	7.1	14.4	68.8	411.7	232.9	640.8	20.1	(NA)	(D)
Michigan	-	55	23	2.5	34.0	1.4	2.7	12.9	67.5	96.8	161.2	1.9	(NA)	(D)
Wisconsin	-	23	9	2.2	34.8	1.5	2.9	21.1	55.2	45.0	105.4	4.1	(NA)	(D)
West North Central Division:														
Minnesota	-	35	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.3	36.4
Iowa	-	10	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	26	10	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	9	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	11.2
Kansas	-	21	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	56	29	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	39	18	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West Virginia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	27	11	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	13	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	16	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	104	49	19.7	281.2	10.3	20.1	104.6	637.2	308.7	926.2	44.4	(NA)	(D)
East South Central Division:														
Kentucky	E1	9	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	E1	14	3	0.4	4.0	0.3	0.4	1.9	6.6	5.1	11.1	0.1	(NA)	(D)
Alabama	-	17	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	E5	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	27	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	132	52	25.4	381.5	12.7	25.7	144.9	787.4	404.3	1 182.3	74.5	(NA)	(D)
Mountain Division:														
Colorado	-	26	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	14.4
New Mexico	-	9	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Arizona	-	24	11	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Utah	-	15	8	2.4	33.9	1.6	3.0	17.8	99.3	33.1	125.6	(D)	(NA)	(D)
Nevada	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	44	15	2.0	29.2	0.8	1.5	8.0	52.1	26.3	74.7	(D)	(NA)	(D)
Oregon	-	18	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	484	239	80.3	1 387.3	38.8	74.9	546.0	2 580.9	1 222.1	3 671.4	112.6	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Radio and TV receiving sets (SIC 3651)	Phonograph records and prerecorded tape (SIC 3652)	Telephone and telegraph apparatus (SIC 3661)	Radio and TV communication equipment (SIC 3662)
Primary product specialization ratio[1]	percent	94	99	94	92
Coverage ratio[2]	do	98	99	97	92
All establishments	number	581	709	264	2 122
With 1 to 19 employees	do	389	576	110	1 149
With 20 to 99 employees	do	92	95	59	529
With 100 employees or more	do	100	38	95	444
All employees, average for year	1,000	74.6	23.1	124.4	334.6
Payroll for year, all employees	mil. dol.	852.4	244.6	1 818.0	5 181.0
Production workers:					
Average for year	1,000	57.6	17.8	87.1	172.8
March	do	54.6	16.3	84.3	171.1
May	do	57.2	17.1	85.5	170.4
August	do	58.5	17.6	88.0	172.5
November	do	60.0	20.5	90.7	176.9
Hours	millions	106.6	37.2	164.2	336.0
January to March	do	25.0	8.6	41.4	84.3
April to June	do	27.1	8.9	41.9	84.4
July to September	do	26.6	9.5	39.4	81.5
October to December	do	27.8	10.3	41.5	85.8
Wages	mil. dol.	570.0	170.0	1 125.9	2 104.5
Cost of materials, etc.	do	3 393.9	461.5	3 858.6	5 180.2
Materials, parts, containers, etc., consumed	do	2 861.4	340.1	3 444.1	4 572.6
Resales	do	501.0	15.5	(D)	(D)
Fuels consumed	do	6.8	9.5	19.3	23.0
Purchased electric energy	do	17.5	8.4	31.5	101.1
Contract work	do	7.3	87.9	(D)	(D)
Value of shipments, including resales	do	5 732.6	1 181.7	7 858.3	14 900.5
Value of resales	do	779.5	18.4	(D)	(D)
Value added by manufacture	do	2 351.8	727.3	4 192.0	9 950.0
Manufacturers' inventories:					
Beginning of year	do	794.8	108.8	1 220.2	2 893.6
Finished products	do	289.1	58.4	113.0	434.5
Work in process	do	264.5	7.9	727.6	1 845.7
Materials, supplies, fuel, etc.	do	241.2	42.6	379.6	613.4
End of year	do	835.0	121.3	1 503.3	3 162.5
Finished products	do	305.4	62.7	125.0	442.6
Work in process	do	261.3	10.6	907.9	2 067.4
Materials, supplies, fuel, etc.	do	268.3	47.9	470.5	652.5
Capital expenditures for plant and equipment	do	128.6	30.2	234.2	501.7
New capital expenditures	do	105.8	29.8	217.3	471.8
New buildings and other structures	do	26.4	5.0	17.1	101.5
New machinery and equipment	do	79.4	24.8	200.2	370.2
Used capital expenditures	do	22.8	0.4	17.0	30.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Radio and TV receiving sets (SIC 3651)		Phonograph records and prerecorded tape (SIC 3652)		Telephone and telegraph apparatus (SIC 3661)		Radio and TV communication equipment (SIC 3662)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(2.1)	27	(1.1)	29	12.6	1	25.3	3
Response coverage ratio[2] (percent)	69	(X)	66	(X)	84	(X)	62	(X)
Machinery	3.2	9	6.0	11	18.7	1	35.3	2
Response coverage ratio[2] (percent)	57	(X)	66	(X)	89	(X)	72	(X)
Cost of purchased communication services	(9.0)	15	(2.4)	21	(20.3)	18	92.2	4
Response coverage ratio[2] (percent)	64	(X)	67	(X)	88	(X)	69	(X)
Rental payments	23.4	2	11.5	10	34.2	4	135.2	2
Buildings and other structures	8.4	5	(7.4)	15	9.0	14	74.6	3
Machinery and equipment	15.0	2	4.0	8	25.2	1	60.5	3
Supplemental labor costs	182.8	1	33.2	2	473.0	1	979.4	1
Legal costs	69.0	1	17.7	2	124.2	1	359.6	1
Voluntary costs	113.8	1	15.5	2	348.8	1	619.8	1
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	295.6	2	59.8	4	600.1	1	1,007.6	1
New capital expenditures	26.4	6	3.4	8	13.4	3	96.2	5
Used capital expenditures	9.1	1	(0.1)	99	4.4	3	8.9	8
Retirements	(2.8)	24	(1.1)	19	7.7	2	30.2	6
End of year	328.3	2	62.2	4	610.2	1	1,082.6	2
Machinery and equipment:								
Beginning of year	410.9	1	137.4	4	1,383.6	1	2,009.9	1
New capital expenditures	78.2	2	22.9	10	194.9	1	369.6	2
Automobiles, trucks, etc., for highway use[3]	(3.3)	(A)	(0.1)	(A)	(0.6)	(A)	(8.9)	(A)
Computers and peripheral data processing equipment[3]	(1.8)	(A)	(0.2)	(A)	(7.0)	(A)	(23.9)	84
All other[3]	(68.8)	29	(17.3)	(A)	175.9	12	292.9	7
New machinery and equipment, n.s.k.[4]	(4.3)	(A)	(5.2)	(A)	(11.3)	(A)	(43.8)	46
Used capital expenditures	13.7	1	-	(X)	12.6	1	19.0	4
Retirements	28.3	6	9.7	10	101.8	1	149.7	3
End of year	474.5	1	150.6	5	1,489.3	1	2,248.8	1
Total gross value of depreciable assets:								
Beginning of year	706.4	1	197.2	4	1,983.7	1	3,017.5	1
New capital expenditures	104.6	3	26.3	9	208.2	1	465.8	2
Used capital expenditures	22.8	1	(0.1)	73	17.0	1	28.0	4
Retirements	31.1	7	10.8	10	109.5	1	180.0	3
End of year	802.8	1	212.8	4	2,099.4	1	3,331.3	1
Depreciation charges during 1977	56.3	1	16.7	8	142.1	1	265.3	3
Buildings and other structures	12.6	2	2.6	9	18.3	1	50.4	3
Machinery and equipment	43.7	2	14.1	9	123.8	1	214.9	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3651, RADIO AND TV RECEIVING SETS												
Total	-	**581**	**74.6**	**852.4**	**57.6**	**106.6**	**570.0**	**2 351.8**	**3 393.9**	**5 732.6**	**105.8**	**835.0**
Establishments with an average of—												
1 to 4 employees	E8	240	0.4	3.9	0.3	0.5	2.4	4.9	10.2	17.8	0.4	2.8
5 to 9 employees	E8	89	0.6	6.7	0.5	0.9	4.1	13.1	16.2	29.2	0.7	4.9
10 to 19 employees	E6	60	0.8	9.3	0.6	1.2	5.7	17.7	23.0	40.6	0.8	6.6
20 to 49 employees	E2	53	1.7	16.7	1.3	2.4	9.8	30.2	58.4	91.7	2.4	13.7
50 to 99 employees	E1	39	2.8	26.7	2.3	4.1	16.9	71.8	71.7	141.4	2.6	23.8
100 to 249 employees	-	47	7.5	67.0	5.4	10.0	38.9	203.7	242.7	429.5	6.1	96.1
250 to 499 employees	-	24	8.1	72.7	6.3	12.1	46.6	154.3	270.8	436.3	5.0	124.8
500 to 999 employees	-	14	9.5	84.7	7.4	13.4	53.5	225.3	291.1	521.6	16.0	105.9
1,000 to 2,499 employees	-	9	13.1	147.5	9.9	17.9	94.2	327.5	680.7	993.2	19.4	164.1
2,500 employees or more	-	6	30.1	417.3	23.6	44.1	297.8	1 303.6	1 729.2	3 031.3	52.4	292.2
Covered by administrative records[2]	E0	305	1.4	15.1	1.1	2.0	9.4	29.5	37.5	66.9	1.4	10.8
INDUSTRY 3652, PHONOGRAPH RECORDS AND PRERECORDED TAPE												
Total	-	**709**	**23.1**	**244.6**	**17.8**	**37.2**	**170.0**	**727.3**	**461.5**	**1 181.7**	**29.8**	**121.3**
Establishments with an average of—												
1 to 4 employees	E6	414	0.6	6.2	0.6	1.0	4.4	13.3	12.6	26.3	0.7	2.5
5 to 9 employees	E5	95	0.6	6.3	0.5	1.0	4.4	13.6	11.3	24.8	0.5	2.6
10 to 19 employees	E2	67	0.9	9.9	0.7	1.4	6.2	22.8	18.5	41.1	1.2	5.1
20 to 49 employees	E1	67	2.0	19.3	1.5	3.1	13.4	65.3	36.0	100.8	3.1	7.6
50 to 99 employees	E1	28	2.1	19.2	1.7	3.3	13.9	34.4	36.9	71.5	2.9	6.5
100 to 249 employees	-	21	3.3	37.8	2.3	4.6	17.5	136.6	93.9	227.1	2.9	21.0
250 to 499 employees	-	8	2.6	31.0	2.0	4.2	23.1	102.7	56.9	155.7	5.5	19.0
500 to 999 employees	-	6	4.1	39.1	2.9	5.9	25.8	110.9	58.8	170.4	3.4	19.8
1,000 to 2,499 employees	-	2	(6.9)	(75.8)	(5.8)	(12.7)	(61.3)	(227.7)	(136.6)	(364.0)	(9.6)	(37.2)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	317	0.7	6.7	0.6	1.1	4.8	14.1	12.9	27.1	0.6	2.6
INDUSTRY 3661, TELEPHONE AND TELEGRAPH APPARATUS												
Total	-	**264**	**124.4**	**1 818.0**	**87.1**	**164.2**	**1 125.9**	**4 192.0**	**3 858.6**	**7 858.3**	**217.3**	**1 503.3**
Establishments with an average of—												
1 to 4 employees	E8	62	0.1	1.1	0.1	0.1	0.7	2.2	2.0	4.2	0.1	0.8
5 to 9 employees	E8	22	0.2	2.0	0.1	0.2	1.3	3.9	3.7	7.5	0.3	1.4
10 to 19 employees	E6	26	0.3	4.6	0.2	0.5	3.0	8.4	7.5	16.4	0.6	3.4
20 to 49 employees	E2	40	1.3	15.3	1.0	1.8	9.4	35.3	26.7	62.1	1.5	9.7
50 to 99 employees	-	19	1.3	12.7	1.0	1.8	7.5	32.3	20.0	51.4	1.2	8.0
100 to 249 employees	E1	32	5.1	60.0	3.3	6.2	29.0	137.6	104.9	236.7	10.5	47.9
250 to 499 employees	E1	22	8.0	100.5	4.5	8.9	45.2	227.5	196.8	428.5	17.5	114.1
500 to 999 employees	-	13	8.5	97.6	5.3	9.4	43.8	225.9	148.0	337.9	14.3	129.3
1,000 to 2,499 employees	-	14	(99.5)	(1 524.1)	(71.6)	(135.3)	(986.2)	(3 518.7)	(3 349.0)	(6 713.5)	(171.3)	(1 188.7)
2,500 employees or more	-	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	82	0.4	5.7	0.3	0.5	3.5	11.8	10.5	22.3	0.7	4.3
INDUSTRY 3662, RADIO AND TV COMMUNICATION EQUIPMENT												
Total	-	**2 122**	**334.6**	**5 181.0**	**172.8**	**336.0**	**2 104.5**	**9 950.0**	**5 180.2**	**14 900.5**	**471.8**	**3 162.5**
Establishments with an average of—												
1 to 4 employees	E8	650	1.0	15.0	0.7	1.0	5.9	23.5	16.9	48.7	1.3	11.6
5 to 9 employees	E7	244	1.6	22.8	0.9	1.7	9.2	46.9	26.7	73.3	1.9	15.7
10 to 19 employees	E6	255	3.5	47.9	1.9	3.6	19.8	103.3	59.7	162.6	3.6	32.8
20 to 49 employees	E1	315	10.2	129.2	6.2	11.9	59.3	264.8	178.1	438.3	9.8	88.6
50 to 99 employees	E1	214	14.8	184.5	8.9	17.0	84.1	372.7	229.5	592.6	17.4	140.6
100 to 249 employees	-	216	33.6	412.8	20.4	40.0	199.5	888.3	673.7	1 534.5	46.6	351.5
250 to 499 employees	-	92	31.7	401.7	18.4	36.0	189.7	763.9	525.7	1 284.7	44.1	338.9
500 to 999 employees	-	63	45.7	710.2	22.5	43.4	270.4	1 465.5	738.1	2 131.5	81.5	476.9
1,000 to 2,499 employees	-	42	65.4	1 041.5	36.2	69.0	472.4	1 969.8	934.2	2 880.3	83.5	557.5
2,500 employees or more	-	31	126.9	2 215.3	56.8	112.4	794.1	4 051.3	1 797.5	5 753.9	182.1	1 148.3
Covered by administrative records[2]	E0	851	4.4	63.8	2.4	4.4	24.8	129.8	67.3	197.0	5.1	41.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3651	**Radio and TV receiving sets:**										
	Entire industry	581	74.6	852.4	57.6	106.6	570.0	2 351.8	3 393.9	5 732.6	105.8
	Establishments with 75 percent specialization or more	550	69.3	784.8	53.7	99.6	528.2	2 242.7	3 212.6	5 453.3	94.5
36511	Home, portable, and automotive radios:										
	Establishments with this product class primary	15	15.8	253.7	12.5	25.1	181.3	554.5	409.1	953.2	45.1
	Establishments with 75 percent specialization or more in class	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36512	Television receivers:										
	Establishments with this product class primary	15	27.8	309.8	21.5	39.0	210.7	1 099.1	2 161.8	3 281.5	29.3
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36514	High fidelity components:										
	Establishments with this product class primary	42	11.2	106.2	8.7	15.5	68.8	279.7	385.4	643.2	8.9
	Establishments with 75 percent specialization or more in class	33	6.2	57.0	4.9	9.1	35.5	168.9	216.2	377.6	4.7
36515	Speakers (including loudspeaker systems):										
	Establishments with this product class primary	99	16.1	145.2	12.0	21.9	85.9	347.1	347.0	689.8	18.4
	Establishments with 75 percent specialization or more in class	88	14.6	134.0	10.8	20.0	78.5	323.0	308.0	619.0	17.7
3652	**Phonograph records and prerecorded tape:**										
	Entire industry	709	23.1	244.6	17.8	37.2	170.0	727.3	461.5	1 181.7	29.8
	Establishments with 75 percent specialization or more	675	22.9	241.3	17.7	37.0	168.6	716.9	454.7	1 164.0	29.6
3661	**Telephone and telegraph apparatus:**										
	Entire industry	264	124.4	1 818.0	87.1	164.2	1 125.9	4 192.0	3 858.6	7 858.3	217.3
	Establishments with 75 percent specialization or more	246	115.4	1 690.7	80.4	151.4	1 040.2	3 919.9	3 701.7	7 430.6	(D)
36611	Telephone switching and switchboard equipment:										
	Establishments with this product class primary	43	56.0	866.3	37.8	70.1	522.9	1 982.9	1 972.4	3 844.7	86.2
	Establishments with 75 percent specialization or more in class	39	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36612	Other telephone and telegraph equipment:										
	Establishments with this product class primary	96	65.8	918.3	47.4	90.6	581.3	2 141.8	1 827.7	3 887.9	127.4
	Establishments with 75 percent specialization or more in class	85	55.7	781.9	39.8	76.3	489.7	1 828.8	1 659.0	3 408.2	114.4
3662	**Radio and TV communication equipment:**										
	Entire industry	2 122	334.6	5 181.0	172.8	336.0	2 104.5	9 950.0	5 180.2	14 900.5	471.8
	Establishments with 75 percent specialization or more	1 947	290.9	4 545.4	147.9	287.2	1 801.2	8 812.1	4 665.4	13 267.4	424.9
36621	Communication equipment, except broadcast:										
	Establishments with this product class primary	270	77.8	1 038.7	44.0	87.7	471.6	2 295.5	1 390.4	3 619.3	144.3
	Establishments with 75 percent specialization or more in class	210	49.4	619.5	29.1	58.1	289.1	1 539.6	916.3	2 433.5	101.7
36622	Broadcast, studio, and related communication equipment:										
	Establishments with this product class primary	75	15.3	214.0	9.2	17.8	107.2	379.8	295.4	660.3	20.0
	Establishments with 75 percent specialization or more in class	66	12.3	176.3	7.0	13.6	83.4	311.9	251.2	549.1	16.6
36623	Intercommunication equipment:										
	Establishments with this product class primary	108	17.2	206.8	10.2	19.3	99.0	509.3	319.3	815.4	20.1
	Establishments with 75 percent specialization or more in class	92	14.5	171.2	9.0	16.8	85.3	444.6	267.6	701.1	17.6
36625	Search, detection, navigation, and guidance systems:										
	Establishments with this product class primary	227	183.9	3 180.2	87.5	169.2	1 207.0	5 729.8	2 499.9	8 137.4	246.4
	Establishments with 75 percent specialization or more in class	164	143.3	2 534.5	67.6	131.0	955.4	4 647.7	2 019.9	6 590.3	204.2
36627	Other electronic communication systems and equipment:										
	Establishments with this product class primary	253	27.1	357.8	14.6	28.0	145.1	695.3	487.7	1 136.9	24.8
	Establishments with 75 percent specialization or more in class	213	19.5	263.9	10.0	18.9	98.7	518.2	389.6	868.3	17.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B+C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3651	Radio and television receiving sets.....1977..	5,732.6	4,621.3	319.5	791.8	94	4,730.8	4,621.3	109.6	98
	1972..	4,440.1	3,560.2	168.5	711.4	95	3,609.7	3,560.2	49.5	99
	1967..	3,846.3	3,517.8	213.8	114.7	94	3,568.2	3,517.8	50.4	99
3652	Phonograph records and prerecorded tape.....1977..	1,181.7	1,134.5	9.9	37.3	99	1,138.7	1,134.5	4.2	99
	1972..	567.7	533.4	10.8	23.5	98	537.3	533.4	3.9	99
	1967..	276.4	267.8	1.4	7.2	99	271.0	267.8	3.2	99
3661	Telephone and telegraph apparatus.....1977..	7,858.3	6,910.6	430.2	517.5	94	7,118.7	6,910.6	208.1	97
	1972..	4,524.7	3,922.3	334.5	267.9	91	3,973.9	3,922.3	51.6	99
	1967..	2,591.2	2,164.9	298.0	128.3	88	2,248.2	2,164.9	83.3	96
3662	Radio and television communication equipment..1977..	14,900.5	12,924.6	1,151.3	824.6	92	14,051.0	12,924.6	1,126.4	92
	1972..	9,140.2	7,610.0	761.6	768.6	91	8,376.6	7,610.0	766.6	91
	1967..	8,555.8	6,706.4	834.2	1,015.2	89	7,482.2	6,706.4	775.8	90

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Million of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Radio and TV receiving sets (SIC 3651)	Phonograph records and prerecorded tape (SIC 3652)	Telephone and telegraph apparatus (SIC 3661)	Radio and TV communication equipment (SIC 3662)	Other industries
	Total	(X)	5,732.6	1,181.7	7,858.3	14,900.5	(X)
	Primary products	(X)	4,621.3	1,134.5	6,910.6	12,924.6	(X)
	Secondary products	(X)	319.5	9.9	430.2	1,151.3	(X)
	Miscellaneous receipts	(X)	791.8	37.3	517.5	824.6	(X)
3651-	Radio and television receiving sets	4,730.8	4,621.3	-	-	(D)	(D)
36511	Home, portable, and automotive radios	811.6	763.1	-	-	-	48.5
36512	Television receivers	2,450.9	2,450.9	-	-	-	-
36514	High fidelity components	558.3	539.3	-	-	(D)	(D)
36515	Speakers (including loudspeaker systems)	753.9	713.9	-	-	(D)	(D)
36510	Radio and television receiving sets, n.s.k.	156.1	154.1	-	-	-	2.0
36520	Records, record blanks, and prerecorded tape	1,138.7	(D)	1,134.5	-	-	(D)
3661-	Telephone and telegraph apparatus	7,118.7	-	-	6,910.6	89.5	118.6
36611	Telephone switching and switchboard equipment	2,827.1	-	-	2,754.6	(D)	(D)
36612	Other telephone and telegraph equipment	4,174.5	-	-	4,039.5	(D)	(D)
36610	Telephone and telegraph apparatus, n.s.k.	117.2	-	-	116.5	-	.6
3662-	Radio and television communication equipment	14,051.0	(D)	-	(D)	12,924.6	979.6
36621	Communication equipment, except broadcast	3,344.4	(D)	-	(D)	3,081.3	215.2
36622	Broadcast, studio, and related communication equipment	568.4	8.0	-	-	514.7	45.7
36623	Intercommunication equipment	851.9	(D)	-	(D)	758.8	(D)
36625	Search, detection, navigation, and guidance systems	7,428.1	-	-	(D)	6,998.5	(D)
36627	Other electronic communication systems and equipment	1,348.6	(D)	-	-	1,070.1	(D)
36620	Communication equipment, n.s.k.	509.7	-	-	.2	501.2	8.2
	Other shipments by 4-digit product group:						
2514-	Metal household furniture	(X)	(D)	-	-	-	(X)
2517-	Wood television and radio cabinets	(X)	(D)	-	-	-	(X)
2731-	Book publishing	X)	-	(D)	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	(D)	(X)
3351-	Copper rolling and drawing	(X)	-	-	(D)	-	(X)
3356-	Nonferrous rolling and drawing, n.e.c.	(X)	-	-	(D)	-	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	-	(D)	(D)	(X)
3423-	Hand and edge tools, n.e.c.	(X)	-	-	(D)	(D)	(X)
3443-	Fabricated plate work (boiler shops)	(X)	-	-	-	(D)	(X)
3448-	Prefabricated metal buildings	(X)	(D)	-	(D)	(D)	(X)
3449-	Miscellaneous metal work	(X)	-	-	-	(D)	(X)
3483-	Ammunition, except for small arms, n.e.c.	(X)	-	-	-	(D)	(X)
3489-	Ordnance and accessories, n.e.c.	(X)	-	-	-	(D)	(X)
3536-	Hoists, cranes, and monorails	(X)	-	-	-	(D)	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	-	-	(D)	(X)
3545-	Machine tool accessories	(X)	-	-	-	(D)	(X)
3559-	Special industry machinery, n.e.c.	(X)	(D)	(D)	(D)	(D)	(X)
3573-	Electronic computing equipment	X)	-	-	-	(D)	(X)
3574-	Calculating and accounting machines	X)	(D)	-	-	(D)	(X)
3572- 3579-	Office machines, n.e.c., and typewriters	(X)	-	D)	-	(D)	(X)
3581-	Automatic merchandising machines	(X)	(D)	-	-	-	(X)
3612-	Transformers	(X)	-	-	-	(D)	(X)
3613-	Switchgear and switchboard apparatus	(X)	(D)	-	(D)	17.8	(X)
3621-	Motors and generators	(X)	-	-	-	(D)	(X)
3622-	Industrial controls	(X)	(D)	-	(D)	3.0	(X)
3629-	Electrical industrial apparatus, n.e.c.	(X)	(D)	-	-	-	(X)
3635-	Household vacuum cleaners	(X)	-	-	-	(D)	(X)
3643-	Current-carrying wiring devices	(X)	-	-	(D)	(D)	(X)
3644-	Noncurrent-carrying wiring devices	(X)	-	-	(D)	(D)	(X)
3646-	Commercial lighting fixtures	(X)	-	-	-	(D)	(X)
3647-	Vehicular lighting equipment	(X)	-	-	-	(D)	(X)
3671-	Electron tubes, all types	(X)	-	-	-	(D)	(X)
3674-	Semiconductors and related devices	(X)	(D)	-	(D)	41.8	(X)
3675-	Electronic capacitors	(X)	-	-	(D)	(D)	(X)
3677-	Electronic coils and transformers	(X)	-	-	(D)	13.9	(X)
3678-	Electronic connectors	(X)	-	-	(D)	(D)	(X)
3679-	Electronic components, n.e.c.	(X)	(D)	(D)	(D)	201.3	(X)
3691-	Storage batteries	(X)	-	-	-	(D)	(X)
3693-	X-ray, electromedical and electrotherapeutic apparatus	(X)	-	-	-	(D)	(X)
3694-	Engine electrical equipment	(X)	(D)	-	-	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c.	(X)	-	-	-	(D)	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Radio and TV receiving sets (SIC 3651)	Phonograph records and prerecorded tape (SIC 3652)	Telephone and telegraph apparatus (SIC 3661)	Radio and TV communication equipment (SIC 3662)	Other industries
	Other shipments by 4-digit product group--Con.						
3714-	Motor vehicle parts and accessories	(X)	(D)	-	-	8.7	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	-	(D)	(X)
3728-	Aircraft equipment, n.e.c.	(X)	-	-	-	(D)	(X)
3731-	Ship building and repairing	(X)	-	-	-	(D)	(X)
3761-	Guided missiles and space vehicles	(X)	(D)	-	-	(D)	(X)
3764-	Space propulsion units and parts	(X)	-	-	-	(D)	(X)
3769-	Space vehicle equipment, n.e.c.	(X)	-	-	-	(D)	(X)
3795-	Tanks and tank components	(X)	(D)	-	-	(D)	(X)
3799-	Transportation equipment, n.e.c.	(X)	-	-	-	(D)	(X)
3811-	Engineering and scientific instruments	(X)	-	-	(D)	(D)	(X)
3823-	Process control instruments	(X)	(D)	-	(D)	8.7	(X)
3824-	Fluid meters and counting devices	(X)	-	-	-	(D)	(X)
3825-	Instruments to measure electricity	(X)	(D)	-	(D)	97.4	(X)
3829-	Measuring and controlling devices, n.e.c.	(X)	-	-	-	19.2	(X)
3832-	Optical instruments and lenses	(X)	-	-	-	24.6	(X)
3841-	Surgical and medical instruments	(X)	-	-	-	(D)	(X)
3861-	Photographic equipment and supplies	(X)	-	-	-	(D)	(X)
3873-	Watches, clocks, and watchcases	(X)	-	-	-	(D)	(X)
3944-	Games, toys, and children's vehicles	(X)	(D)	(D)	-	(D)	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	(D)	5.0	1.4	42.0	(X)
99980 00	Miscellaneous receipts, except for contract work and resales	(X)	(X)	13.9	(X)	(X)	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(X)	(D)	(D)	(X)
99980 31	Installation of products manufactured	(X)	-	(X)	(D)	30.9	(X)
99980 41	Research and development	(X)	(D)	(X)	(D)	278.1	(X)
99980 61	Repair work	(X)	5.6	(X)	17.1	56.5	(X)
99980 98	Other miscellaneous receipts	(X)	2.6	(X)	(D)	141.2	(X)
99989 00	Resales	(X)	779.5	18.4	(D)	(D)	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3651-	3079 Miscellaneous plastics products	(D)
	3585 Refrigeration and heating equipment	(D)
	3679 Electronic components, n.e.c.	(D)
	3861 Photographic equipment and supplies	(D)
	3931 Musical instruments	(D)
3661-	3357 Nonferrous wire drawing and insulating	(D)
	3573 Electronic computing equipment	(D)
	3629 Electrical industrial apparatus, n.e.c.	(D)
	3678 Electronic connectors	(D)
	3679 Electronic components, n.e.c.	(D)
	3761 Guided missiles and space vehicles	(D)
3662-	3079 Miscellaneous plastics products	(D)
	3357 Nonferrous wire drawing and insulating	(D)
	3448 Prefabricated metal buildings	(D)
	3489 Ordnance and accessories, n.e.c.	(D)
	3535 Conveyors and conveying equipment	(D)
	3573 Electronic computing equipment	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3662-	3579 Office machines, n.e.c.	(D)
	3634 Electronic housewares and fans	(D)
	3647 Vehicular lighting equipment	(D)
	3671 Electron tubes, all types	96.9
	3674 Semiconductors and related devices	22.7
	3679 Electronic components, n.e.c.	(D)
	3721 Aircraft	73.0
	3724 Aircraft engines and engine parts	(D)
	3728 Aircraft equipment, n.e.c.	(D)
	3761 Guided missiles and space vehicles	(D)
	3764 Space propulsion units and parts	(D)
	3769 Space vehicle equipment, n.e.c.	(D)
	3811 Engineering and scientific instruments	(D)
	3823 Process control instruments	7.9
	3825 Instruments to measure electricity	(D)
	3829 Measuring and controlling devices, n.e.c.	(D)
	3832 Optical instruments and lenses	(D)
	3861 Photographic equipment and supplies	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments Quantity	1977 Product shipments Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	RADIO AND TV RECEIVING SETS						
3651- --	Total	.....	(NA)	(X)	4,730.8	(X)	3,609.7
36511 --	Home, portable, and automobile radios, and radio-phonograph-tape recorder combination models:						
	As reported in the census of manufactures	.....	25	(X)	811.6	(X)	754.5
	As reported in Current Industrial Reports MA-36M, Radio Receivers and Television Sets, Phonographs and Record Players, Speakers, and Related Equipment	Thousands	22	11,761.0	824.0	15,672.0	744.9
	Home radios:						
	Electrically powered:						
	Table models, except clock:						
36511 01	AM		-	-	-	108.0	1.3
36511 02	AM-FM and FM		5	(1)	(1)	250.0	6.2
	Clock models:						
36511 03	AM		-	-	-	404.0	5.0
36511 05	AM-FM and FM		4	395.5	7.4	509.0	14.1
	Portable, battery operated:						
36511 21	AM		-	-	-	726.0	8.6
36511 24	AM-FM and FM		3	(1)	(1)		
36511 25	Other home radios, including consoles		4	1465.8	115.4	53.0	1.4
	Radio-phonograph-tape recorder combinations:						
	Table and portable, excluding high-fidelity compact systems:						
36511 11	Monaural		1	1,051.0	101.2	1,256.0	102.8
36511 12	Stereo and quadraphonic		11				
	Console model:						
36511 18	Monaural		-	-	-	1,210.0	212.5
36511 19	Stereo and quadraphonic		5	349.3	64.7		
	Automobile radios:						
36511 31	AM		5	3,540.6	97.3	11,156.0	392.8
36511 32	AM-FM		5	1,604.0	95.6		
36511 33	AM-FM stereo		6	1,974.6	192.3		
36511 34	AM-FM with tape player		6	1,813.2	236.4		
36511 35	Tape players, sold separately	Thousands	3	567.1	13.7		
36512 --	Television receivers, including TV-radio-phonograph-tape recorder combination models:						
	As reported in the census of manufactures	.....	14	(X)	2,450.9	(X)	2,148.7
	As reported in the Current Industrial Reports MA-36M, Radio Receivers and Television Sets, Phonographs and Record Players, Speakers, and Related Equipment	Thousands	14	8,019.9	2,439.1	10,219.0	2,241.1
	Table and portable models:						
36512 11	Monochrome, 10 inches or under		2	1,214.6	113.9	2,943.0	228.0
36512 12	Monochrome, over 10 inches through 17 inches		5				
36512 13	Monochrome, over 17 inches		6				
36512 14	Color, 10 inches or under		1	1,020.9	263.7	4,092.0	936.9
36512 15	Color, over 10 inches through 17 inches		7				
36512 16	Color, over 17 inches		12	3,239.0	969.9		
	Console and consolette models:						
36512 03	Monochrome		4	2,502.5	1,063.9	245.0	32.3
36512 04	Color		12			2,842.0	988.4
	TV-radio-phonograph-tape recorder combination models:						
36512 05	Monochrome		1	42.9	27.7	97.0	55.5
36512 20	Color		4				
36512 21	Color with video tape recorder	Thousands	-	-	-		
36514 --	Consumer high fidelity components, including audio and video recorders and players, stereo compact systems, tuners, amplifiers, receivers, TV chassis, and other home-type audio equipment:						
	As reported in the census of manufactures	.....	62	(X)	558.3	(X)	373.4
	As reported in the Current Industrial Reports MA-36M, Radio Receivers and Television Sets, Phonographs and Record Players, Speakers, and Related Equipment	.....	70	(X)	519.9	(X)	326.2
	Phonographs and record players, and high-fidelity components:						
36514 01	Mechanical (acoustical) phonographs	Thousands	3	(D)	(2)	(3)	(3)
	Phonographs, except mechanical:						
36514 02	Coin-operated, including remote speakers and controls		3	41.2	46.3	73.0	64.4
	Portable, table and console, except high-fidelity compact and component systems:						
36514 11	Monophonic		8	2,175.9	66.5	1,527.0	29.1
36514 12	Stereophonic		8				
36514 13	Stereo compact systems		9	1,594.1	179.1	976.0	58.9
36514 86	TV chassis, for sale separately	Thousands	2	(D)	(2)	(3)	(3)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	RADIO AND TV RECEIVING SETS--Con.						
36514 --	Consumer high fidelity components, including audio and video recorders and players, stereo compact systems, tuners, amplifiers, receivers, TV chassis, and other home-type audio equipment--Con.						
	As reported in Current Industrial Reports MA-36M, Radio Receivers and Television Sets, Phonographs and Record Players, Speakers, and Related Equipment--Con.						
	Consumer high-fidelity components:						
	Receivers (tuner-amplifier combinations):						
36514 71	Stereophonic	Thousands	9	376.1	76.2	587.0	85.3
36514 72	Quadraphonic		2				
36514 73	Tuners (AM-FM and FM)		8	17.4	2.8		
36514 74	Preamplifier-control units		11	36.9	10.7		
	Power amplifiers:						
36514 75	Monophonic		4	96.1	25.5	137.0	15.6
36514 76	Stereophonic		11				
36514 77	Quadraphonic		3				
	Turn tables (record players):						
36514 05	Automatic changer		10	688.7	30.2	678.0	14.3
36514 06	Manual		6	87.9	4.9	329.0	9.0
36514 07	Record changer mechanisms (sold OEM)		1	(D)	(2)	(3)	(3)
36514 08	Manual turn table mechanisms (sold OEM)		-	-	-	(3)	(3)
36514 09	Phonograph arms (sold separately)		2	(D)	(2)	(3)	(3)
	Consumer audio and video recorders and players, except radio-phonograph-TV-recorder combinations, office recording machines, and recorder mechanisms and other home-type electronic equipment sold separately:						
	Audio tape recorders and players, complete:						
36514 35	Reel to reel		3	202.9	30.4	300.0	21.5
36514 36	Cartridge		-				
36514 37	Cassette		10				
	Video recorders and players, complete:						
36514 41	Tape cartridge		-	-	-	(3)	(3)
36514 42	Disc		-				
36514 68	Other home-type electronic equipment (converters, adapters, etc.)	Thousands	13	(X)	246.3	31,875.0	328.1
36515 --	Speakers, including loudspeaker systems and loudspeakers sold separately, microphones, home-type electronic kits, and commercial sound equipment, except broadcast, including public address systems:						
	As reported in the census of manufactures		114	(X)	753.9	(X)	249.2
	As reported in Current Industrial Reports MA-36M, Radio Receivers and Television Sets, Phonographs and Record Players, Speakers, and Related Equipment	Thousands	114	(X)	736.9	(S)	234.9
	Loudspeaker systems (one or more speakers mounted in a single enclosure):						
36515 56	Bookshelf (designed to be supported on shelves or pieces of furniture)		32	1,594.6	120.5	(S)	167.4
36515 57	Floor standing (designed with or without integral base, can only be placed on floor because of weight or bulk restrictions)		42	2,071.0	168.5		
36515 65	Other loudspeaker systems (not specified above)		11	337.2	49.8		
36515 54	Loudspeakers sold separately, including radio, television, and automobile radio speakers		37	45,747.9	241.3		
36515 55	Microphones (carbon, dynamic, other)		12	3,151.8	60.8	4,289.0	37.6
36515 67	Home entertainment equipment kits (audio amplifiers, audio preamplifiers, tuners, etc.)		5	432.0	26.6	178.0	13.0
36515 93	Music distribution systems (FM multiplex subscriber service)		2				
36515 94	Public address systems	Thousands	27	579.3	69.4	(S)	16.9
36510 00	Radio and TV receiving sets, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	89.2	(X)	64.8
36510 02	Radio and TV receiving sets, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	66.9	(X)	19.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

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1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments[4]		Quantity of production for all purposes	Product shipments	
					Quantity[5]	Value (million dollars)		Quantity	Value (million dollars)
	PHONOGRAPH RECORDS AND PRERECORDED TAPE								
3652- --	Total		(NA)	(X)	(X)	1,138.7	(X)	(X)	537.3
36520 --	Phonograph records, record blanks, and prerecorded tapes and video discs:								
	Disc records, except electrical transcriptions:								
36520 22	45 r.p.m. for own label	Millions	13	*644.0	*517.5	108.9	260.3	250.6	34.4
36520 24	45 r.p.m. on contract basis for others		19	(X)	578.1	75.1	(X)	281.0	25.8
36520 31	33 1/3 r.p.m. for own label (stereophonic and quadraphonic type)		27	(S)	**387.2	282.6	181.4	162.7	121.0
36520 35	33 1/3 r.p.m. on contract basis for others (stereophonic and quadraphonic type)		26	(X)			(X)	274.4	75.5
36520 62	Other records, including 33 1/3 r.p.m. monaural, all 78 r.p.m., etc., and electrical transcriptions of all speeds				302.6	126.3			
		Millions	2	(D)			(S)	(S)	10.1
	Prerecorded tapes:								
	For own label:								
36520 32	Cartridge, 8-track	Million reels.	19	193.1	*187.4	164.8	40.4	40.4	62.7
36520 84	Cassette		17	**45.1	**39.6	54.3	21.6	17.9	21.8
36520 86	Other (reel-to-reel, cartridge, 4-track, play tape, etc.)		2	(D)	(6)	(6)	3.0	3.0	4.7
	On contract basis for others:								
36520 87	Cartridge 8-track		15	(X)	91.4	59.8	(X)	45.1	48.2
36520 88	Cassette		20	(X)	**52.9	41.2	(X)	17.2	18.6
36520 89	Other (reel-to-reel, cartridge, 4-track, play tape, etc.)	Million reels.	4	(X)	6 6.7	6 11.3	(X)	2.8	4.9
36520 91	Record blanks (disc type and other)		2	(X)	(X)	(7)	(X)	(X)	13.0
	Video discs:								
36520 92	Prerecorded	Thousands	-	-	-	-	-	-	-
36520 93	Blanks	Thousands							
36520 00	Phonograph records, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	(X)	7 187.3	(X)	(X)	73.3
36520 02	Phonograph records, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	(X)	27.1	(X)	(X)	23.3

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	TELEPHONE AND TELEGRAPH APPARATUS						
3661- --	Total		(NA)	(X)	7,118.7	(X)	3,973.9
36611 --	Telephone switching and switchboard epuipment:						
	As reported in census of manufactures		34	(X)	2,827.1	(X)	1,568.1
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus		34	(X)	2,820.6	(X)	1,515.0
	Private branch exchange equipment:						
	Common Carrier:						
36611 21	Manual		6				
	Automatic:			(X)	315.8	(X)	211.9
36611 24	Electromechanical		6				
36611 27	Electronic		5				
	Private carrier:						
36611 31	Manual		2				
	Automatic:			(X)	12.5	(X)	9.7
36611 34	Electromechanical		4				
36611 37	Electronic		9	(X)	42.5		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

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1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments Quantity	1977 Product shipments Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	TELEPHONE AND TELEGRAPH APPARATUS--Con.						
36612 --	Telephone and telegraph (wire) apparatus, equipment, and components, except switching and switchboard--Con.						
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus--Con.						
	Central office switching equipment:						
	Local switching:						
36611 61	Manual		1				
36611 63	Electromechanical		6				
36611 65	Electronic		6	(X)	1,444.8		
36611 67	Specialized switching, including video, digital, and computer controlled		3				
	Toll switching:						
36611 71	Manual		-			(X)	1,293.4
36611 73	Electromechanical		4				
36611 75	Electronic		2	(X)	183.9		
36611 77	Specialized switching, including video, digital, and computer controlled		4				
36611 79	Other telephone switchboard equipment		22		821.1		
36612 --	Telephone and telegraph (wire) apparatus, equipment, and components, except switching and switchboard equipment:						
	As reported in census of manufactures		102	(X)	4,174.5	(X)	2,376.6
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus		121	(X)	4,234.0	(X)	2,336.3
	Carrier line equipment (office and line repeaters and line terminating carrier equipment):						
	Analog:						
36612 21	Hi-capacity		2	(X)	[8]219.1	(X)	(D)
36612 22	Lo-capacity		6	(X)	([8])	(X)	(D)
	Digital:						
36612 23	Hi-capacity		3	(X)	239.0	(X)	(D)
36612 24	Lo-capacity		6				
	Subscriber loop carrier (terminal and line equipment):						
36612 25	Digital		5	(X)	([8])	(X)	(D)
36612 26	Analog		6	(X)	([8])	(X)	14.5
	Multiplex equipment:						
36612 30	Analog (chan. banks, group, supergroup, master group, etc.)		4	(X)	241.9	(X)	([9])
36612 32	Digital (chan. banks, muldens, etc.)		7				
	Telephone sets:						
36612 33	Pushbutton type	Million sets	9	11.5	341.3	12.6	277.0
36612 36	Dial type		8	6.5	151.5		
36612 39	Other (call directors, key sets, and special purpose)	Million sets	12	3.0	181.1	2.0	74.2
	Teleprinters:						
36612 51	Up to 20 c.p.s	Thousand sets	5	(S)	73.3		
36612 54	21 to 100 c.p.s		4				
36612 57	101 to 200 c.p.s		1	(S)	177.4	(D)	(D)
36612 59	Over 200 c.p.s		4				
36612 62	Tape senders and receivers		3	(X)	([10])	(D)	(D)
36613 63	Alphanumeric display terminals based on CRT displays; typically, including a keyboard and sometimes including a serial printer or tape cassette		9	58	124.4	(D)	(D)
	Modems (data sets) including auxiliary sets:						
36612 72	Up to 300 b/s		12	118	34.1		
36612 74	301 to 2000 b/s		8	61	25.0		
36612 76	2001 to 4800 b/s		6	57	112.2	(S)	34.5
36612 78	Over 4800 b/s	Thousand sets	6				
	Voice frequency equipment:						
36612 82	V.F. carrier telegraph		6	(X)	([10])		
36612 84	Signaling		13	(X)	44.0	(X)	(D)
36612 86	Facility equipment, including subscriber loop and repeaters		9	(X)	102.0		
36612 88	Telephone key systems		3	(X)	[10]2,167.7	(X)	[9]1,329.1
36612 91	Other telephone and telegraph equipment		72				
36610 00	Telephone and telegraph apparatus, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	94.9	(X)	25.1
36610 02	Telephone and telegraph apparatus, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	22.3	(X)	4.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

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1977 product code	Product	Unit of measure	Number of companies	Quantity	Value (million dollars)
			1977		
	RADIO AND TV COMMUNICATION EQUIPMENT				
3662- --	Total	.....	(NA)	(X)	14,051.0
36621 --	Communication systems and equipment, except broadcast, including microwave and mobile communication equipment:				
	As reported in census of manufactures	.....	349	(X)	3,344.4
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	246	(X)	3,217.5
	Light communication systems and equipment, electronic:				
36621 13	Fiber optics system and equipment	.....	5	(X)	55.6
36621 14	Other light communication systems and equipment, including laser and infrared communication systems and equipment	.....	9		
	Transmitters, receivers, RF power amplifiers, radio communication (point-to-point), except amateur and citizens radio; all components whether shipped as a complete package or shipped separately:				
36621 01	Very low frequency and low frequency (below 300 kHz)	.....	11	(X)	46.9
36621 02	Medium and high frequency (300 kHz to 30 MHz)	.....	21	(X)	91.1
36621 03	VHF and UHF (to 890 MHz)	.....	47	(X)	339.2
36621 04	Microwave 890 MHz to 1849 MHz	.....	13	(X)	12.1
36621 05	Microwave 1850 MHz to 3699 MHz	.....	14	(X)	38.5
36621 06	Microwave 3700 MHz to 6424 MHz	.....	9	(X)	17.8
36621 07	Microwave 6425 MHz to 7899 MHz	.....	6		
36621 08	Microwave 7900 MHz to 12.20 GHz	.....	12		
36621 09	Microwave 13.25 GHz to 19.60 GHz	.....	5	(X)	88.3
36621 10	Microwave 19.60 GHz to 56.00 GHz	.....	1		
	Carrier equipment, n.e.c.:				
36621 36	Voice channel multiplex for radio systems	.....	9	(X)	46.5
36621 37	Power line carrier equipment	.....	4		
36621 40	Space satellite communication systems	.....	27	(X)	311.2
36621 31	Telemetering systems and equipment, n.e.c., sold separately, including data link (receivers and transmitters), pickup equipment, recording equipment, and special synchronization equipment	.....	30	(X)	177.0
	Mobile radio systems, sold as complete package, including transceivers, power amplifiers, antennas, repeaters, transmitters, receivers, etc., except amateur and citizens radio:				
36621 50	Airborne and marine	Thousands.....	13	(S)	63.8
36621 55	Ground	↕	12	(S)	137.2
	Mobile base stations, transmit/receive, except amateur and citizens band:				
36621 52	Airborne	↕	1	(S)	180.3
36621 54	Marine	↕	2		
36621 56	Ground	Thousands.....	12		
	Mobile vehicular, transmit/receive package, except amateur and citizens band:				
36621 62	Airborne	.....	4	(X)	31.9
36621 64	Marine	.....	8	(X)	24.1
	Ground:				
36621 65	300 kHz to 30 MHz	.....	6	(X)	258.0
36621 67	30.00 to 72.98 MHz	.....	6		
36621 66	72.99 to 150.7 MHz	.....	3		
36621 68	150.8 to 174.0 MHz	.....	7		
36621 71	406.0 to 512.0 MHz	.....	6		
36621 70	806 MHz and higher frequencies	.....	2		
	Portable receivers, transceivers, and transmitter/receivers, except amateur and citizens band:				
36621 82	Portable, including pocket size	Thousands.....	15	188,744	181.6
36621 84	Pager (one way)	↕	5	(X)	104.0
36621 86	Parts and subassemblies for mobile, portable, and base station radios	Thousands.....	5		
36621 88	Amateur radio communication equipment, fixed, mobile and portable	.....	14	(X)	54.4
	Citizens radio communication equipment:				
36621 21	CB transceivers, hand-held	.....	4	(X)	55.8
	CB transceivers, a.c. only:				
36621 23	Single sideband	.....	4		
36621 25	Other	.....	3		
	CB transceivers, d.c. and d.c./a.c.:				
36621 27	Single sideband	.....	5	(X)	12.3
36621 29	Other	.....	8	(X)	35.8
36621 52	Facsmile communication equipment	.....	7	(X)	56.7
36621 93	Electronic checkout, monitoring, evaluation, and other electronic support equipment for communication systems	.....	24	(X)	66.0
	Antenna systems, except structural towers sold separately:				
36621 92	Communication antennas, below 890 MHz	Thousands.....	39	(S)	124.0
36621 94	Microwave, 890 MHz and above (horns, parabolas, etc.) sold separately	Thousands.....	25	(S)	33.3
36621 95	Antenna accessories, sold separately	.....	34	(X)	62.9
36621 98	Other communication equipment, sold separately	.....	77	(X)	511.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies	Quantity	Value (million dollars)
			1977--Con.		
3662- --	RADIO AND TV COMMUNICATION EQUIPMENT--Con.				
36622 --	Broadcast, studio, and related electronic equipment:				
	As reported in census of manufactures	.....	116	(X)	568.4
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	133	(X)	560.3
	Audio equipment, excluding consumer and PA types:				
36622 12	Amplifiers and preamplifiers	Thousands	31	167.2	25.1
36622 13	Control consoles and switchers	Thousands	16	6,211.0	12.8
36622 17	Other (power supplies, terminal equipment, broadcast recorders, etc.)	.....	28	(X)	54.8
	Video equipment, excluding consumer and PA types:				
36622 22	Amplifiers	Thousands	12	7,357.0	4.5
36622 19	Television cameras and telecine chains	Thousands	7	586.0	12.5
36622 29	Other (power supplies, synchronization equipment, terminal equipment monitors, video tape recorders and parts and accessories thereof, live cameras, control consoles and switchers, film equipment, TV outside vans	.....	26	(X)	205.8
	Transmitters, translators, RF power amplifiers, and related equipment:				
36622 31	AM and FM transmitters	.....	11	(X)	35.4
36622 34	TV transmitters	.....	4	(X)	16.5
36622 37	Other (broadcast transmission line equipment, phasing equipment, TV boosters and repeaters (translators), etc.)	.....	14	(X)	21.4
36622 51	Studio transmission links (STL) and remote pickup equipment	.....	6	(X)	21.8
	Cable TV (master antennae) and CATV equipment, excluding construction cost:				
36622 55	Head end equipment (antenna baluns, carrier generators, head and control units, single and broadband preamplifiers and strip amplifiers, converters, modulators and demodulators, splitting and mixing networks, FM processing equipment, filters and traps, power suppliers, switches, etc.)	.....	13	(X)	16.3
36622 57	Subscriber equipment (decoders, converters, and switchers; wall outlet taps; distribution amplifiers; power suppliers; directional couplers, splitters, alternators, and equalizers)	.....	10	(X)	41.3
36622 30	Broadcasting transmitting antennas and community antenna systems	.....	15	(X)	27.3
36622 41	Closed circuit television systems and equipment, excluding broadcast and consumer products	.....	12	(X)	32.3
36622 40	Other broadcast, studio, theatre, and commercial sound equipment, sold separately, excluding studio lighting equipment, radiating and supporting towers	.....	22	(X)	32.5
36623 --	Intercommunication equipment, alarm systems, and traffic control equipment:				
	As reported in census of manufactures	.....	153	(X)	851.9
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	128	(X)	847.4
	Intercommunication systems, including inductive paging systems (selective calling):				
36623 12	Wired	.....	33	(X)	90.3
36623 13	Nonwired	.....	5	(X)	34.3
36623 14	AM/FM home radio intercom systems	.....	6		
	Alarm systems:				
	Intrusion detection:				
36623 48	Local	.....	34	(X)	101.1
36623 49	Central station	.....	23	(X)	24.7
36623 50	Direct connect	.....	13	(X)	46.3
36623 51	Hold-up systems (commercial and industrial)	.....	7	(X)	15.9
	Fire detection and prevention:				
	Smoke and heat detection alarms:				
36623 53	Ionization chamber type	.....	15	(X)	149.5
36623 54	Other, including photo cell type	.....	20	(X)	63.1
36623 56	Central station	.....	18	(X)	51.2
36623 57	Direct connect	.....	7	(X)	6.8
	Vehicular and pedestrian traffic control equipment:				
36623 42	Signal heads, including parts and accessories	.....	14	(X)	21.9
36623 43	Electronic and electromechanical controllers, detectors, and sensors, including parts and accessories	.....	27	(X)	75.0
	Railway signals and attachments, electric:				
36623 21	Railway highway grade crossing signals, excluding relays and other control apparatus	.....	4	(X)	89.7
36623 29	Other railway signal systems and safety control equipment	.....	6	(X)	77.6
36625 --	Search and detection and navigation and guidance systems and equipment:				
	As reported in census of manufactures	.....	226	(X)	7,428.1
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	218	(X)	7,425.5
36625 09	Light reconnaissance and surveillance electronic systems and equipment (infrared, ultraviolet, and visible light)	.....	35	(X)	403.8
36625 22	IFF equipment	.....	10	(X)	87.4
36625 32	Proximity fuses	.....	4	(X)	42.9

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies	Quantity	Value (million dollars)
			1977--Con.		
3662- --	RADIO AND TV COMMUNICATION EQUIPMENT--Con.				
36625 --	Search and detection and navigation and guidance systems and equipment--Con.				
	As reported in Current Industrial Reports MA-36N--Con.				
	Radar systems and equipment:				
	Search, detection, and acquisition radar systems and equipment (BMEWS, airborne and other early warning radar, air traffic control radar, air defense and fighter control radar, ship radar, harbor control radar, meteorological radar, etc.):				
36625 42	Airborne and missile/space radar	.....	16	(X)	345.0
36625 44	Ship (marine) radar	.....	14	(X)	147.0
36625 46	Ground radar	.....	23	(X)	252.9
	Tracking radar systems and equipment (fire control, bombing, bombing-navigational radar, aircraft and missile tracking radar, etc.):				
36625 62	Airborne and missile/space radar	.....	15	(X)	440.5
36625 64	Ship (marine) radar	.....	10	(X)	127.2
36625 66	Ground radar	.....	14	(X)	213.4
	Instrumentation radar systems and equipment (altimeters, highway speed control radar, missile and space satellite tracking range radar, GCA and other precision approach radar, etc.):				
36625 70	Airborne, missile/space, and ship (marine) radars	.....	6	(X)	30.1
36625 76	Ground radar	.....	11	(X)	49.2
36625 82	Electronic checkout, monitoring, evaluation, and other electronic support equipment for radar systems	.....	27	(X)	151.2
	Sonar search, detection, tracking, and communication systems and equipment, including ASW (sonar telephone, communication equipment, depth finding, fire control, fusing, guidance, hydrophones, mapping, sonabuoys, navigation, sonar fish finders, sonar range instrumentation, and other):				
36625 52	Surface ship applications (destroyers, destroyer escorts, etc.)	.....	21	(X)	149.2
36625 53	Submarine applications	.....	27	(X)	234.2
36625 55	Airborne	.....	20	(X)	155.5
36625 58	Electronic checkout, monitoring, evaluation, and other electronic support equipment for sonar systems and submerged fixed systems	.....	27	(X)	100.0
36625 91	Specialized command and control data processing and display equipment sold separately from complete systems	.....	22	(X)	294.5
36625 98	Search, detection, identification, and tracking systems and equipment, n.e.c.	.....	33	(X)	385.8
36625 51	Meteorological electronics equipment and radio astronomy equipment (automatic weather stations and weather tracking equipment, ceilometers, transitometers, space satellite meteorological systems, and specialized meterological telemetering equipment)	.....	16	(X)	23.3
36625 59	Geophysical electronic equipment (exploration and other specialized geophysical equipment)	.....	23	(X)	101.5
	Electronic warfare systems and equipment:				
	Countermeasures equipment:				
36625 11	Jamming equipment, communications, and radar	.....	23	(X)	280.2
36625 13	Underwater countermeasures equipment	.....	5	(X)	223.0
36625 15	Other active countermeasure equipment, excluding passive materials such as "chaff," "window," "needles," "rope," etc	.....	19		
36625 41	Specialized electronic and communication intelligence equipment	.....	37	(X)	519.1
	Missile and space vehicle systems and equipment (beam riders, command guidance, inertial systems, infrared homing systems, radar systems, stellar trackers, television systems, combination systems, etc.):				
36625 12	Missile-borne and space vehicle-borne equipment	.....	44	(X)	1,080.4
36625 10	Nonmissile and space vehicle guidance equipment (ground, ship, or airborne command guidance systems, etc.)	.....	8	(X)	214.3
36625 14	Electronic checkout, launching, and other missile and space vehicle support systems (ground, ship, and air)	.....	26	(X)	169.9
	Navigation systems and equipment (NAV AIDS) for aircraft, ship, and ground navigation (autopilots, beacons, transponders, collision warning devices, DECCA, DME, ILS, Doppler navigation systems, inertial navigation systems, optical/laser LORAN, radio compasses and direction finders, SHORAN, TACAN, VOR, VORTAC equipment, etc.):				
	Airborne navigational systems:				
36625 83	Radio navigation receivers and displays, including omni, radio magnetic, glide slope/localizer, DME, etc	.....	17	(X)	165.1
36625 84	Airborne integrated data systems/flight recorders	.....	3	(X)	(11)
36625 85	Distance measuring equipment (DME)	.....	10	(X)	11.8
36625 86	Flight directors/situation display	.....	8	(X)	10.8
36625 87	Heads-up display (HUD) systems	.....	4	(X)	(11)
36625 88	Inertial navigation systems	.....	7	(X)	(11)
36625 89	Proximity warning/collision avoidance equipment	.....	3	(X)	(11)
36625 90	Complete automatic pilots (both gyroscopic and non-gyroscopic)	.....	8	(X)	76.2
36625 92	Other airborne navigational systems	.....	24	(X)	11510.2
36625 16	Surface (ship and ground) navigational systems	.....	40	(X)	187.0
36625 17	Underwater navigational systems	.....	12	(X)	242.9
36625 18	Electronic checkout, monitoring, evaluation, and other electronic support equipment for navigational systems and equipment	.....	45		
36627 --	Electronic systems and equipment, n.e.c.:				
	As reported in census of manufactures	.....	400	(X)	1,348.6
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	229	(X)	1,286.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies	Quantity	Value (million dollars)
			1977--Con.		
3662- --	RADIO AND TV COMMUNICATION EQUIPMENT--Con.				
36627 --	Electronic systems and equipment, n.e.c.--Con.				
	As reported in Current Industrial Reports MA-36N--Con.				
36627 91	Electronic kits to be assembled by purchaser, except hi-fidelity component kits	.....	10	(X)	[12]
	Ultrasonic equipment, except medical:				
33627 23	Cleaners, drills, welders, and solderers	.....	9	(X)	54.0
33627 26	Other	.....	6		
	Amplifiers, except audio, RF power, and video, sold separately:				
36627 62	Magnetic and pulse	.....	15	(X)	1.9
36627 63	Maser	.....	-	(X)	-
36627 67	DC	.....	17	(X)	18.1
36627 69	Other (differential, facsimile, etc.)	.....	11	(X)	7.8
36627 05	Particle accelerator electronics equipment and subassemblies for betatrons, cyclotrons, synchrotrons, etc.; and linear accelerators (dynamotrons, Vandergraff, traveling wave, etc.)	.....	5	(X)	23.3
36627 54	Automatic garage door openers (electronic controls)	.....	10	(X)	97.0
36627 72	Consumer electronic equipment, n.e.c	.....	28	(X)	252.4
36627 98	Scientific electronic equipment, n.e.c	.....	30	(X)	66.0
36627 06	Power supply portion of integrated TWT amplifier package	.....	9	(X)	12.8
36627 92	Electronic teaching machines and teaching aids	.....	15	(X)	6.5
36627 94	Electronic trainers and simulators	.....	28	(X)	232.9
	Laser systems and equipment, except communication:				
36627 11	Laser designator ranging equipment	.....	4	(X)	26.5
36627 12	Laser instrumentation (laboratory alignment devices, surveying equipment, etc.)	.....	3	(X)	[13]
36627 13	Industrial laser equipment (welding, drilling, cutting, printing, wirephoto, etc.)	.....	7	(X)	27.8
36627 14	Medical laser equipment	.....	2		
36627 16	Laser generators, power supplies, and other laser equipment and components sold separately	.....	7	(X)	[13]18.0
36627 97	Other electronic systems, equipment, and subassemblies, n.e.c	.....	105	(X)	[12]441.5
36620 00	Radio and TV communication equipment, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	312.7
36620 02	Radio and TV communication equipment, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	197.0
			1972		
	RADIO AND TV COMMUNICATION EQUIPMENT				
3662- --	Total	.....	(NA	(X)	8,376.6
36621 --	Commercial, industrial, and military communication equipment, except telephone communication equipment:				
	As reported in census of manufactures	.....	NA	(X)	1,554.8
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Equipment, Including Telephone and Telegraph Apparatus	.....	NA	(X)	1,403.4
36621 91	Light communication systems and equipment, electronic, including infrared	.....	NA	(X)	21.8
	Point-to-point radio communication systems such as Dew Line, White Alice, etc., except real estate, sold as a complete package: antennas, power supplies, receivers, transmitters, multiplexing and demodulating equipment, etc.:				
36621 11	Very low frequency and low frequency (below 300 kHz)	.....			
36621 13	Medium and high frequency (300 kHz to 30 MHz)	.....	(NA)	(X)	89.0
36621 14	Very high frequency and ultra high frequency (to 890 MHz)	.....			
36621 15	Microwave line-of-sight; microwave scatter; and microwave video relay, except studio transmitter link	.....	(NA)	(X)	114.1
	Receivers, radio communication, (point-to-point) except amateur, and citizens radio, sold separately:				
36621 21	Very low frequency and low frequency (below 300 kHz)	.....			
36621 23	Medium and high frequency (300 kHz to 30 MHz)	.....			
36621 24	Very high frequency and ultra high frequency (to 890 MHz)	.....			
36621 25	Microwave line-of-sight; microwave scatter; and microwave video relay, except studio transmitter link	.....			
	Transmitters and RF power amplifiers, radio communication (point-to-point), except amateur and citizens radio, sold separately:		NA	(X)	134.9
36621 31	Very low frequency and low frequency (below 300 kHz)	.....			
36621 33	Medium and high frequency (300 kHz to 30 MHz)	.....			
36621 34	Very high frequency and ultra high frequency (to 890 MHz)	.....			
36621 35	Microwave line-of-sight; microwave scatter; and microwave video relay, except studio television link	.....			

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies	Quantity	Value (million dollars)
			1972--Con.		
3662- --	RADIO AND TV COMMUNICATION EQUIPMENT--Con.				
36621 --	Commercial, industrial, and military communication equipment, except telephone communication equipment--Con.				
	As reported in Current Industrial Reports MA-36N--Con.				
	Space satellite communication systems:				
36621 43	Associated ground equipment, including telemetering, synchronization, relay, and command and control equipment	.....	(NA)	(X)	102.1
36621 45	Sonar communication systems and equipment	.....	(NA)	(X)	46.3
36621 47	Carrier current communication systems and equipment, n.e.c.	.....			
	Mobile radio systems, sold as complete packages, including transceivers, base stations, power amplifiers, antennas, repeaters, transmitters, receivers, etc., except amateur and citizens radio:				
36621 51	Airborne	.....	(NA)	(X)	53.1
36621 53	Marine	.....			
36621 55	Ground	.....	(NA)	(X)	263.9
	Mobile transceivers and transmitters, except amateur and citizens radio, sold separately:				
36621 61	Airborne	Thousands			
36621 63	Marine	Thousands			
36621 65	Ground	Thousands			
	Mobile receivers, except amateur and citizens radio, sold separately:		(NA)	(S)	90.6
36622 71	Airborne	.....			
36622 73	Marine	.....			
36622 75	Ground	.....			
36622 81	Portable receivers, transceivers, and transmitter-receivers, except amateur and citizens radio	Thousands	(NA)	(S)	143.2
	Amateur radio communication equipment, fixed, mobile, and portable:				
36621 83	Transmitters and RF power amplifiers	.....			
36621 85	Receivers	Thousands	(NA)	(S)	11.9
36621 87	Other (transceivers, transmitter-receivers, etc.)	.....			
36621 89	Citizens radio communication equipment	Thousands	(NA)	131.1	13.4
36621 93	Electronic checkout, monitoring, evaluation, and other electronic support equipment for communication systems	.....	(NA)	(X)	97.9
36621 98	Other communication equipment, sold separately	.....	(NA)	(X)	176.7
	Antenna systems, except structural towers, sold separately:				
36621 92	Communication antennas (below 890 MHz)	.....	(NA)	(X)	29.0
36621 94	Microwave, above 890 MHz (horns, parabolas, etc.)	.....	(NA)	(X)	15.7
36622 --	Radio and television broadcast equipment and closed circuit systems:				
	As reported in census of manufactures	.....	(NA)	(X)	429.6
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	(NA)	(X)	393.8
	Audio equipment:				
36622 12	Amplifiers	Thousands	(NA)	190.4	20.9
36622 13	Control consoles and switchers	↕	(NA)	(S)	3.4
36622 14	Broadcast recorders				
36622 15	Turntables	Thousands			
36622 16	Other (power supplies, terminal equipment, etc.)	.....	(NA)	(S)	24.2
36622 37	Broadcast and studio sound effects equipment	.....			
36622 38	Theatre sound equipment	.....			
	Video equipment:				
36622 22	Amplifiers	Thousands	(NA)	14.9	4.2
36622 23	Cameras (TV and TV camera chains)	.....			
36622 24	Control consoles and switchers	Thousands			
36622 25	Film equipment (broadcast film cameras, multiplexers, projectors, etc.)	.....			
36622 26	Monitors	Thousands	(NA)	(X)	111.1
36622 27	Video tape recorders	.....			
36622 28	Other (power supplies, synchronization equipment, terminal equipment, etc.)	.....			
	Transmitters, RF power amplifiers, and related equipment:				
36622 32	AM	.....			
36622 33	FM	.....			
36622 34	TV	.....	(NA)	(X)	48.4
36622 35	TV boosters and repeaters	.....			
36622 36	Other (broadcast transmission line equipment, phasing equipment, etc.)	.....			
36622 51	Studio transmitter links (STL) and remote pickup equipment	.....	(NA)	(X)	7.7
36622 41	Closed circuit television systems and equipment	.....	(NA)	(X)	63.4
	Electronic kits to be assembled by purchaser:				
36622 92	Amateur equipment kits	.....			
36622 93	Test and measuring equipment kits	.....	(NA)	(X)	45.8
36622 94	Other kits	.....			
	Antenna systems, except structural towers, sold separately:				
36622 30	Broadcasting transmitting antennas	.....	(NA)	(X)	64.7
36622 31	Community antenna systems	.....			

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies	Quantity	Value (million dollars)
			1972--Con.		
3662- --	RADIO AND TV COMMUNICATION EQUIPMENT--Con.				
36623 --	Intercommunication equipment, except telephone and telegraph, and electric alarm and signal systems and devices	.....	NA	(X)	336.2
	Intercommunication equipment, except telephone and telegraph:				
36623 10	As reported in census of manufactures	.....	NA	(X)	298.5
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	NA	(X)	287.3
36623 11	Intercommunication equipment, electronically amplified, except intercommunication equipment designed primarily for use in telephone and telegraph networks	.....	NA	(X)	103.9
	Vehicular and pedestrian traffic control equipment:				
36623 42	Signal heads, including parts and accessories	.....	NA	(X)	18.5
36623 43	Electronic and electromechanical controllers, detectors, and sensors, including parts and accessories	.....	NA	(X)	68.9
36623 47	Alarm systems, electronic	.....	NA	(X)	96.1
	Railway signals and attachments, electric:				
36623 21	Railway highway grade-crossing signals, exclusive of relays and other control apparatus	.....	NA	(X)	16.5
36623 29	Other railway signal systems and safety control equipment	.....			
36623 00	Intercommunication equipment, except telephone and telegraph, and electric alarm and signal systems, n.s.k	.....	NA	(X)	21.4
36624 --	Electronic navigational aids, except missile-borne and space vehicle-borne equipment:				
	As reported in census of manufactures	.....	NA	(X)	1,073.9
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	NA	(X)	1,090.3
	Missile and space vehicle systems and equipment (beam riders, command guidance, inertial systems, infrared homing systems, radar systems, stellar trackers, television systems, combination systems, etc.):				
36624 13	Nonmissile and space vehicle guidance equipment (ground, ship, or airborne command guidance systems, etc.)	.....	NA	(X)	140.0
36624 14	Electronic checkout, launching, and other missile and space vehicle support systems (ground, ship, and airborne)	.....	NA	(X)	99.2
	Navigation systems and equipment (NAV AIDS) for aircraft, ship, and ground navigation (autopilots, beacons, transponders, collision warning devices, DECCA, DME, ILS, Doppler navigation systems, inertial navigation systems, optical-laser, LORAN, radio compasses and direction finders, SHORAN, TACAN, VOR, VORTAC equipment, etc.):				
36624 15	Airborne navigational systems	.....	NA	(X)	666.4
36624 16	Surface (ship and ground) navigational systems	.....	NA	(X)	60.7
36624 17	Underwater navigational systems	.....	NA	(X)	43.8
36624 18	Electronic checkout, monitoring, evaluation, and other electronic support equipment for navigational systems and equipment	.....	NA	(X)	80.2
36625 --	Electronic search and detection apparatus, including radar, infrared, and sonar:				
	As reported in census of manufactures	.....	NA	(X)	2,264.0
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	NA	(X)	2,102.4
36625 12	Light reconnaissance and surveillance electronic systems and equipment (infrared, ultraviolet, and visible light)	.....	NA	(X)	350.3
36625 25	Miscellaneous search, detection, identification, and tracking system equipment	.....			
	Radar systems and equipment:				
	Search, detection, and acquisition radar systems and equipment (BMEWS, airborne, and other early warning radar, air traffic control radar, air defense and fighter control radar, ship radar, harbor control radar, meterological radar, etc.):				
36625 42	Airborne and missile/space radar	.....	NA	(X)	171.2
36625 44	Ship (marine) radar	.....	NA	(X)	119.3
36625 46	Ground radar	.....	NA	(X)	260.5
	Radar tracking systems and equipment (fire control, bombing, bombing-navigational radar, aircraft and missile tracking radar, etc.):				
36625 62	Airborne and missile/space radar	.....	NA	(X)	307.3
36625 64	Ship (marine) radar	.....	NA	(X)	88.9
36625 66	Ground radar	.....	NA	(X)	110.9
	Radar instrumentation systems and equipment (altimeters, highway speed control radar, missile and space satellite tracking range radar, GCA and other precision approach radar, etc.):				
36625 72	Airborne and missile/space radar	.....	NA	(X)	16.4
36625 74	Ship (marine) radar	.....			
36625 76	Ground radar	.....	NA	(X)	47.7
36625 82	Electronic checkout, monitoring, evaluation, and other electronic support equipment for radar systems	.....	NA	(X)	112.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies	Quantity	Value (million dollars)
			1972--Con.		
3662- --	RADIO AND TV COMMUNICATION EQUIPMENT--Con.				
	As reported in Current Industrial Reports MA-36N--Con.				
	Sonar search, detection, and tracking systems and equipment, including ASW (depth finding, fire control, fusing, guidance, hydrophones, mapping, sonabuoys, navigation, sonar fish finders, sonar range instrumentation, and other):				
36625 52	Surface ship applications (destroyers, destroyer escorts, etc.)	.....	(NA)	(X)	88.2
36625 53	Submarine applications	.....	(NA)	(X)	110.6
36625 54	Submerged fixed systems	.....	(NA)	(X)	[14]
36625 55	Airborne	.....	(NA)	(X)	125.0
36625 56	Electronic checkout, monitoring, evaluation, and other electronic support equipment for sonar systems	.....	(NA)	(X)	[14]83.6
36625 91	Specialized command and control data processing and display equipment sold separately from complete systems	.....	(NA)	(X)	109.9
36626 --	Electronic, military, industrial, and commercial equipment, n.e.c.:				
	As reported in census of manufactures	.....	(NA)	(X)	1,460.0
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	(NA)	(X)	1,294.3
	Countermeasures equipment:				
36626 11	Jamming equipment, communications, and radar	.....	NA	(X)	[15]
36626 13	Underwater countermeasures equipment	.....			
36626 15	Other active countermeasure equipment, excluding passive materials such as "chaff," "window," "needles," "rope," etc	.....			
36626 41	Specialized electronic and communication intelligence equipment (ELINT and COMINT equipment), n.e.c	.....			
	Ultrasonic equipment:				
36626 22	Cleaners	.....	NA	(X)	6.4
36626 24	Drills, solders, and welders	.....			
36626 26	Other	.....	(NA)	(X)	12.0
36626 96	Other electronic industrial processing equipment	.....	(NA)	(X)	14.5
36626 31	Telemetering systems and equipment, n.e.c., sold separately	.....	NA	(X)	77.6
	Amplifiers, except audio, RF power, and video, sold separately:				
36626 61	Magnetic	.....	(NA)	(X)	2.3
36626 65	Pulse	.....			
36626 67	DC	.....	(NA)	(X)	11.4
36626 69	Other (differential, facsimile, etc.)	.....	(NA)	(X)	20.0
36626 71	Automotive equipment, electronic	.....	(NA)	(X)	265.3
36626 81	Consumer electronic equipment, n.e.c	.....			
36626 91	Electronic trainers and simulators	.....	(NA)	(X)	103.2
36626 92	Electronic teaching machines and teaching aids	.....	(NA)	(X)	7.1
36626 97	Other electronic systems, equipment, and subassemblies, n.e.c	.....	(NA)	(X)	[15]677.7
36626 59	Geophysical electronic equipment (exploration and other specialized geophysical equipment)	.....	NA	(X)	35.3
36626 51	Meteorological electronics equipment and radio astronomy equipment (automatic weather stations and weather tracking equipment, ceilometers, transitometers, space satellite meteorological systems, and specialized meteorological telemetering equipment)	.....	NA	(X)	43.9
36626 57	Particle accelerator electronics equipment and subassemblies for betatrons, cyclotrons, synchrotrons, etc.; linear accelerators (dynamotorons, Vandergraff, traveling wave, etc.)	.....	(NA)	(X)	13.8
36626 98	Scientific electronic equipment, n.e.c	.....	(NA)	(X)	14.9
36627 --	Space satellite-borne communication systems (complete package):				
	As reported in census of manufactures	.....	(NA)	(X)	124.7
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	(NA)	(X)	112.2
36627 41	Space satellite-borne communication stations (complete package)	.....	(NA)	(X)	112.2
36628 --	Missile-borne and space vehicle-borne navigation and guidance systems and equipment:				
	As reported in census of manufactures	.....	NA	(X)	777.8
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	(NA)	(X)	698.5
36628 12	Missile-borne and space vehicle-borne equipment	.....	(NA)	(X)	698.5
36629 --	Microwave and mobile telephone (communication) equipment	.....	(NA)	(X)	148.3
36629 77	Microwave telephone (communication) equipment	.....	(NA)	(X)	125.2
36629 79	Mobile telephone (communication) equipment	.....	NA	(X)	16.7
36629 00	Microwave and mobile telephone (communication) equipment, n.s.k	.....	(NA)	(X)	6.4
36620 00	Radio and TV communication equipment, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	172.7
36620 02	Radio and TV communication equipment, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	34.5

Footnotes are on next page.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available.
n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For 1977, product codes 36511 02, 36511 24, and 36511 25 were combined to avoid disclosing operations of individual companies.

[2]For 1977, product codes 36514 01, 36514 07, 36514 09, 36514 86, and 36514 68 were combined to avoid disclosing operations of individual companies.

[3]For 1972, product codes 36514 01, 36514 07, 36514 08, 36514 09, 36514 41, 36514 42, and 36514 86 were combined with product code 36514 68.

[4]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[5]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[6]For 1977, product codes 36520 86 and 36520 89 were combined to avoid disclosing operations of individual companies.

[7]For 1977, product codes 36520 91 and 36520 00 were combined to avoid disclosing operations of individual companies.

[8]For 1977, product codes 36612 21, 36612 22, 36612 25, and 36612 26 were combined to avoid disclosing operations of individual companies.

[9]For 1972, product codes 36612 30, 36612 32, and 36612 88 were included with product code 36612 91.

[10]For 1977, product codes 36612 62, 36612 88, and 36612 91 were combined to avoid disclosing operations of individual companies.

[11]For 1977, product codes 36625 84, 36625 87, 36625 88, and 36625 92 were combined to avoid disclosing operations of individual companies.

[12]For 1977, product codes 36627 91 and 36627 97 were combined to avoid disclosing operations of individual companies.

[13]For 1977, product codes 36627 12, 36627 14, and 36627 16 were combined to avoid disclosing operations for individual companies.

[14]For 1972, product codes 36625 54 and 36625 56 were combined to avoid disclosing operations of individual companies.

[15]For 1972, product codes 36626 11, 36626 13, 36626 15, 36626 41, and 36626 97 were combined to avoid disclosing operations of individual companies.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36511, HOME, PORTABLE, AND AUTOMOTIVE RADIOS		
United States	811.6	754.5
Middle Atlantic Division:		
New York	22.3	GG
North Central Division:		
Illinois	3.3	130.5
36512. TELEVISION RECEIVERS		
United States	2,450.9	2,148.7
East North Central Division:		
Illinois	689.8	GG
36514, HIGH FIDELITY COMPONENTS		
United States	558.3	373.4
New England Division:		
Massachusetts	18.1	14.0
Middle Atlantic Division:		
New York	105.7	72.8
East North Central Division:		
Illinois	78.9	146.8
Pacific Division:		
California	95.6	FF
36515, SPEAKERS (INCLUDING LOUDSPEAKER SYSTEMS)		
United States	753.9	249.2
New England Division:		
Massachusetts	85.4	29.7
Middle Atlantic Division:		
New York	23.4	7.6
New Jersey	21.3	14.3
East North Central Division:		
Indiana	65.9	FF
Illinois	111.8	38.0
Michigan	22.9	18.0
East South Central Division:		
Tennessee	36.6	CC
Pacific Division:		
California	197.2	FF
36611, TELEPHONE SWITCHING AND SWITCHBOARD EQUIPMENT		
United States	2,827.1	1,568.1
Pacific Division:		
California	105.5	AA
36612, OTHER TELEPHONE AND TELEGRAPH EQUIPMENT		
United States	4,174.5	2,376.6
Middle Atlantic Division:		
New York	44.9	41.3
Pennsylvania	50.4	CC
East North Central Division:		
Illinois	887.5	GG
Wisconsin	6.1	AA
South Atlantic Division:		
Florida	8.9	CC
Pacific Division:		
Washington	27.2	AA
California	225.9	GG

Product class and geographic area	Value of product shipments	
	1977	1972
36621, COMMUNICATION EQUIPMENT, EXCEPT BROADCAST		
United States	3,344.4	(NA)
New England Division:		
New Hampshire	10.5	(NA)
Massachusetts	106.8	(NA)
Connecticut	28.9	(NA)
Middle Atlantic Division:		
New York	181.5	(NA)
New Jersey	93.9	(NA)
Pennsylvania	75.9	(NA)
East North Central Division:		
Ohio	101.2	(NA)
Indiana	164.4	(NA)
Illinois	287.1	(NA)
Michigan	9.0	(NA)
West North Central Division:		
Minnesota	56.7	(NA)
Kansas	17.9	(NA)
South Atlantic Division:		
Maryland	141.7	(NA)
North Carolina	37.6	(NA)
South Carolina	65.1	(NA)
Florida	584.3	(NA)
East South Central Division:		
Alabama	15.6	(NA)
West South Central Division:		
Oklahoma	30.0	(NA)
Texas	375.8	(NA)
Pacific Division:		
Washington	5.1	(NA)
California	473.1	(NA)
36622, BROADCAST, STUDIO, AND RELATED COMMUNICATION EQUIPMENT		
United States	568.4	(NA)
New England Division:		
Massachusetts	42.9	(NA)
Middle Atlantic Division:		
New York	40.8	(NA)
Pennsylvania	34.6	(NA)
East North Central Division:		
Illinois	64.8	(NA)
South Atlantic Division:		
Maryland	4.9	(NA)
Florida	8.8	(NA)
East South Central Division:		
Tennessee	5.5	(NA)
Pacific Division:		
California	136.4	(NA)
36623, INTERCOMMUNICATION EQUIPMENT		
United States	851.9	336.2
New England Division:		
Massachusetts	45.3	FF
Connecticut	26.5	28.2
Middle Atlantic Division:		
New York	153.3	86.8
New Jersey	48.6	31.5
East North Central Division:		
Ohio	55.6	24.1
Indiana	5.9	[illegible]
Illinois	125.1	16.1
Michigan	2.8	BB

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36623, INTERCOMMUNICATION EQUIPMENT--Con.		
West North Central Division:		
Missouri	13.4	8.0
West South Central Division:		
Texas	31.1	CC
Mountain Division:		
Arizona	4.4	(NA)
Pacific Division:		
California	96.7	FF
36625, SEARCH, DETECTION, NAVIGATION, GUIDANCE SYSTEMS		
United States	7,428.1	NA)
New England Division:		
Massachusetts	531.9	(NA)
Connecticut	25.7	(NA)
Middle Atlantic Division:		
New York	952.0	(NA)
New Jersey	472.5	(NA)
Pennsylvania	57.4	(NA)
East North Central Division:		
Ohio	31.1	(NA)
Illinois	57.1	(NA)
West North Central Division:		
Minnesota	37.0	(NA)
Missouri	182.2	(NA)
South Atlantic Division:		
Maryland	574.3	(NA)
Virginia	258.0	NA)
North Carolina	35.7	(NA)
Florida	219.3	(NA)
East South Central Division:		
Alabama	26.7	(NA)
West South Central Division:		
Texas	570.9	(NA)

Product class and geographic area	Value of product shipments	
	1977	1972
36625, SEARCH, DETECTION, NAVIGATION, GUIDANCE SYSTEMS--Con.		
Mountain Division:		
Colorado	70.6	(NA)
Arizona	168.1	(NA)
Utah	97.6	(NA)
Pacific Division:		
California	2,385.7	(NA)
36627, OTHER ELECTRONIC COMMUNICATION SYSTEMS AND EQUIPMENT		
United States	1,348.6	(NA)
New England Division:		
New Hampshire	4.5	(NA)
Massachusetts	51.7	(NA)
Connecticut	78.7	(NA)
Middle Atlantic Division:		
New York	156.6	(NA)
New Jersey	25.3	(NA)
Pennsylvania	15.3	(NA)
East North Central Division:		
Ohio	82.2	(NA)
Indiana	129.6	(NA)
Illinois	58.5	(NA)
Michigan	86.6	(NA)
Wisconsin	16.0	(NA)
West North Central Division:		
Minnesota	10.3	(NA)
South Atlantic Division:		
Maryland	51.5	(NA)
Virginia	15.3	(NA)
Florida	38.8	(NA)
West South Central Division:		
Oklahoma	21.4	(NA)
Texas	58.2	(NA)
Mountain Division:		
Colorado	20.0	(NA)
Pacific Division:		
Washington	20.4	(NA)
California	314.7	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3651-	Radio and television receiving sets	4,730.8	4,143.3	3,545.0	3,891.8	4,158.4	3,609.7	3,568.2	2,073.9
36511	Home, portable, and automotive radios	811.6	823.9	675.7	735.7	907.6	754.5	697.4	531.3
36512	Television receivers	2,450.9	2,224.5	1,923.9	2,228.9	2,432.4	2,148.7	2,259.7	1,092.3
36514	High fidelity components	558.3	365.3	364.8	365.8	388.8	373.4	396.1	320.0
36515	Speakers (including loudspeaker systems)	753.9	719.9	548.9	481.4	372.6	249.2	184.8	114.2
36510	Radio and television receiving sets, n.s.k.	156.1	(S)	(31.7)	(80.0)	57.0	83.9	30.2	16.1
36520	Records, record blanks, and prerecorded tape	1,138.7	741.8	649.2	568.6	561.3	537.3	271.0	178.7
3661-	Telephone and telegraph apparatus	7,118.7	5,132.1	4,733.9	4,882.7	4,427.4	3,973.9	2,248.2	1,538.0
36611	Telephone switching and switchboard equipment	2,827.1	2,050.8	1,860.9	2,019.5	1,816.0	1,568.1	840.4	491.3
36612	Other telephone and telegraph equipment	4,174.5	3,064.9	2,850.9	2,839.8	2,592.8	2,376.6	1,399.0	1,045.2
36610	Telephone and telegraph apparatus, n.s.k.	117.2	(16.4)	(22.1)	(23.4)	18.6	29.2	8.8	1.5
3662-	Radio and television communication equipment	14,051.0	11,957.0	10,755.1	9,548.7	9,252.6	8,376.6	7,482.2	6,064.8
36621	Communication equipment, except broadcast	3,344.4	3,007.9	2,856.1	2,338.6	(NA)	(NA)	(NA)	(NA)
36622	Broadcast, studio, and related communication equipment	568.4	559.5	469.3	471.6	(NA)	(NA)	(NA)	(NA)
36623	Intercommunication equipment	851.9	605.9	563.2	527.5	445.3	336.2	231.0	165.8
36625	Search, detection, navigation, and guidance systems	7,428.1	6,446.4	5,895.7	5,186.9	(NA)	(NA)	(NA)	(NA)
36627	Other electronic communication systems and equipment	1,348.6	1,165.3	873.8	800.4	(NA)	(NA)	(NA)	(NA)
36620	Communication equipment, n.s.k.	509.7	(172.0)	(97.0)	(223.7)	181.9	(NA)	196.9	32.0

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. **Materials Consumed by Kind: 1977 and 1972**

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3651, RADIO AND TV RECEIVING SETS					
	Materials, parts, containers, and supplies	.....	(X)	2,861.4	(X)	2,197.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons..	*31.3	9.3	48.5	10.9
331011	Bars and bar shapes		3.0	2.4	4.6	1.4
331019	All other carbon steel mill shapes and forms		(S)	1.6	4.5	2.6
331020	Alloy steel, except stainless					
	Stainless steel:		7.9	5.5	12.5	9.5
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
	Insulated wire and cable, except magnet wire:					
335792	Copper content	Million lb.....	(S)	15.1	19.0	
335793	Aluminum content		.5	.1	(S)	26.6
335770	Magnet wire		(S)	4.4	(X)	
335728	Bare wire copper and copper-base alloy for electrical conduction		*.8	1.4	3.5	4.7
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		3.6	3.2	2.0	.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		10.6	3.1	3.0	1.5
335008	All other aluminum mill shapes and forms		**.4	.4	.3	.4
336100	Aluminum and aluminum-base alloy castings (rough and semifinished):					
	Purchased		*1.8	2.7	3.1	2.5
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors under 1 hp:					
362110	Timing motors, synchronous and subsynchronous, under 1 hp:					
	Purchased	Millions.....	.9	7.2	1.0	3.1
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		*1.1	7.9	3.3	9.9
	Produced and consumed		(S)	(X)	(S)	(X)
367012	Electron tubes, except X-ray and cathode ray picture tubes:					
	Purchased		4.5	3.8	60.7	42.3
	Produced and consumed		(S)	(X)	(S)	(X)
367200	Cathode ray picture tubes:					
	Purchased		*7.7	399.7	9.5	485.2
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
367400	Transistors, diodes, and rectifiers:					
	Purchased	Millions.....	(S)	39.0	588.9	56.9
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
367411	Integrated circuits	.....	(S)	43.0	(X)	23.2
367601	Resistors for electronic applications	.....	(X)	43.4		
367501	Capacitors for electronic applications	.....	(X)	65.3	(X)	[2]585.0
367900	Other electronic components and accessories, n.e.c., including phonograph needles and cutting styli	.....	(X)	140.7		
365141	Tuners	.....	(X)	149.8	X	[2]171.0
365151	Speaker systems and speakers sold separately	.....	(X)	133.6		
364300	Current-carrying wiring devices, including lampholders, toggle switches, wire connectors, outlets, etc	.....	(X)	59.8	(X)	[2]47.0
364401	Noncurrent-carrying wiring devices, including boxes and covers, insulating bushings, nipples, and jacks	.....	(X)	10.9	(X)	[2]29.0
251011	Cabinets (wood, metal, and plastics)	Millions.....	(S)	224.2	11.8	207.3
339913	Ferrite (powders and paste)	.....	(X)	8.4	(X)	2.4
260091	Paper and paperboard containers	.....	(X)	40.3	(X)	28.7
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Millions.....	15.7	10.4	(X)	Z
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	22.7	(X)	[2]48.0
345001	Bolts, nuts, screws, washers, rivets, and screw machine products	.....	(X)	15.4	(X)	[2]27.0
346901	Metal stampings	.....	(X)	45.5	(X)	[2]80.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	969.9	(X)	177.5
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	371.3	(X)	112.6

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost
	INDUSTRY 3652, PHONOGRAPH RECORDS AND PRERECORDED TAPE[4]			
	Materials, parts, containers, and supplies	.....	(X)	340.1
367904	Unrecorded audio-range magnetic tape, with or without cassettes or cartridges	.....	(X)	40.4
365201	Record blanks	Millions	**27.4	10.5
307951	Empty tape cassettes and cartridges	Millions	*274.0	29.6
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	6.6
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	*216.5	75.2
367902	Electronic cutting styli	.....	(X)	(5)
260001	Paper and paperboard products, including album covers, sleeves, etc	.....	(X)	61.7
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[5]28.0
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	88.1

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3661, TELEPHONE AND TELEGRAPH APPARATUS					
	Materials, parts, containers, and supplies	.....	(X)	3,444.1	(X)	1,839.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	4.7	2.5	15.7	3.6
331012	Sheet and strip		(S)	27.2	71.7	18.9
331019	All other carbon steel mill shapes and forms				9.7	2.1
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	11.9	26.5	21.1
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip		(S)	2.2		
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content)	*29.5	56.1	22.4	32.7
335793	Aluminum	Mil. lb. minum content)				
335770	Magnet wire	Million lb	9.1	18.0		
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)		(S)	2.8	8.6	9.0
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	40.3	25.4	25.4
335143	Plate, sheet, and strip, including military cups and discs					
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		4.0	3.0	13.9	8.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	3.6		
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	2.6		
336100	Aluminum and aluminum-base alloy castings (rough and semifinished):					
	Purchased	Million lb	(S)	9.2	10.4	11.0
331019	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons	(D)	(6)	(X)	(7)
333970	Nonferrous metal refinery shapes, except precious metals	1,000 s. tons	(D)	(6)	(X)	(7)
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz	(D)	(6)	(X)	(7)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(D)	(6)	(D)	(D)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(D)	(6)	(X)	[2]17.0
367010	Electron tubes, except X-ray:					
	Purchased	Millions	(D)	(6)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
367408	Semiconductors:					
	Purchased		(D)	(6)	(D)	(D)
	Produced and consumed	Millions	(S)	(X)	(S)	(X)
367500	Capacitors for electronic applications	.....	(X)	(6)	(X)	(7)
367600	Resistors for electronic applications	.....	(X)	75.1	(X)	(7)
367900	Other electronic components and accessories, n.e.c	.....	(X)	323.1	(X)	(7)
364300	Current-carrying wiring devices	.....	(X)	59.6	(X)	[2]86.0
345001	Bolts, nuts, screw, rivets, and screw machine products	.....	(X)	30.0	(X)	(7)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[6]2,620.7	(X)	[7]1,406.6
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	156.2	(X)	21.5

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3662, RADIO AND TV COMMUNICATION EQUIPMENT					
	Materials, parts, containers, and supplies	.....	X	4,572.6	X	2,998.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons..	38.1	13.0	42.3	10.3
331011	Bars and bar shapes		13.3	4.7	11.3	3.2
331015	Structural shapes		(S)	2.6	8.2	2.7
331017	Wire and wire products		S	2.8	4.2	.9
331019	All other carbon steel mill shapes and forms		S	2.7	S	1.0
	Alloy steel, except stainless:					
331021	Bars and bar shapes		**3.2	3.3	4.8	2.3
331029	All other alloy steel mill shapes and forms		**5.6	5.1	34.6	24.0
	Stainless steel:					
331033	Sheet and strip		(S)	2.7	1.5	2.5
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	**4.8	7.3	1.8	2.9
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb copper content)	(S)	35.4		
335793	Aluminum	Mil. lb (aluminum content)	S	4.0	S	30.8
335770	Magnet wire	Million lb.....	**5.8	7.9		
	Copper and copper base alloy:					
335728	Bare wire for electrical conduction only		**2.9	3.7	6.1	4.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	3.7	3.0	3.5
335143	Plate, sheet, and strip, including military cups and discs		1.6	3.0	3.9	3.8
335152	Pipe and tube		1.9	3.0	1.0	1.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		29.8	27.2	22.4	14.5
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.		**17.5	17.5	17.2	11.3
335008	All other aluminum mill shapes and forms	Million lb.....	**6.7	6.6	15.8	10.3
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	**4.2	12.5	2.4	2.4
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	S	51.4	22.1	24.2
336200	Copper and copper-base alloy:					
	Purchased		(S)	2.9	.7	1.1
339915	Metal powders	Million lb.....	.5	.6	(S)	.3
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz..	(S)	10.9	X	[2]
	Fractional horsepower electric motors, under 1 hp:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(S)	16.3	324.2	12.9
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased	.....	(S)	20.8	376.0	8.5
367010	Electron tubes, except X-ray:					
	Purchased	Millions.....	(S)	84.5	(S)	64.4
367400	Transistors, diodes, and rectifiers:					
	Purchased	.....	(S)	189.4	316.9	162.6
367411	Integrated circuits:					
	Purchased	.....	(S)	252.1	X	129.0
281995	Silicon, hyper pure	1,000 kilograms	(D)	D	S	2.5
333977	Germanium	1,000 lb.....	S	2.0	S	.3
260091	Paper and paperboard containers	.....	(X)	25.3	X	11.6
329905	Mica	1,000 lb.....	(D)	(D)	S	.7
335616	Nickel and nickel-base alloy mill shapes and forms	Million lb.....	Z	1.8	.5	1.5
339913	Ferrites (powder and paste)	.....	(X)	1.7	X	1.6
	Glass and glass products:					
322921	Tube blanks	.....	(X)	2.1	S	1.3
320311	Other than tube blanks	.....	(X)	4.3	X	5.6
335691	Tantalum mill products	Thousands lb...	(Z)	(Z)	-	-
335693	Molybedenum, rolled, drawn, or extruded	Million lb.....	(S)	.1	-	-
335733	Tungsten wire	Million meters.	(Z)	(Z)	-	-
367901	Fabricated electron tube parts, except blanks	.....	(X)	5.7	X	7.9
367500	Capacitors for electronic applications	.....	(X)	118.1		
367600	Resistors for electronic applications	.....	X	71.7		
367700	Coils, transformers, reactors, and chokes for electronic applications	.....	X	93.8	X	[2]873.0
367900	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modales, dial assemblies, etc	.....	(X)	553.1		
364300	Current-carrying wiring devices	.....	X	30.0	X	[2]54.0
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	X	51.5	X	[2]64.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	X	16.4	X	[2]5.2
344401	Sheet metal products, except stampings	.....	X	78.8	X	[8]
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	X	76.8	X	[2]53.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	X	18.2	X	[2]39.0
346901	Metal stampings	.....	X	41.7	X	[2]72.0
970099	All other materials and components, parts, containers, and supplies	.....	X	1,861.2	X	[8]1,041.8
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	X	717.0	X	228.3

Footnotes are on next page.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than $50,000 or less than half the unit of measure specified for quantities.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]Materials consumed data were not collected for this industry for 1972.

[5]For 1977, material codes 367902 and 970099 were combined to avoid disclosing operations of individual companies.

[6]For 1977, material codes 335609, 333970, 333903, 282104, 307903, 367010, 367408, and 367500 were included with material code 970099 to avoid disclosing operations of individual companies.

[7]For 1972, material codes 335609, 333970, 333903, 367500, 367600, and 367900 were included with material code 970099.

[8]For 1972, material code 344401 was included with material code 970099.

Electronic Components and Accessories

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DESCRIPTION OF INDUSTRIES

ELECTRONIC COMPONENTS AND ACCESSORIES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3671 Electron Tubes, All Types
3674 Semiconductors and Related Devices
3675 Electronic Capacitors
3676 Electronic Resistors
3677 Electronic Coils and Transformers
3678 Electronic Connectors
3679 Electronic Components, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry) were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3671, ELECTRON TUBES, ALL TYPES

This industry comprises establishments primarily engaged in the manufacture of receiving type electron tubes for radio and television use, including cathode ray tubes; and transmitting, industrial, and special purpose electron tubes. Establishments primarily engaged in the manufacture of X-ray tubes are classified in industry 3693.

For 1977 this industry includes all establishments previously classified in Industries 3671, Electron Tubes, All Types; 3672, Cathode Ray Picture Tubes; and 3673, Electron Tubes, Transmitting Types. The industries have been combined because of declining size. All statistics in this publication are based on the revised industry and are comparable with statistics for prior years.

The total value of shipments for establishments classified in the Electron Tubes, All Types industry amounted to $1,582 million in 1977, an increase of 12 percent from 1972. The value of shipments of products classified as primary to the industry was $1,257 million, an increase of 6 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were transmitting and special purpose tubes, for which shipments increased 49 percent, and receiving tubes, for which shipments decreased 57 percent. Value added by manufacture, at $910 million in 1977, was 6 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 36.7 thousand employees, a decrease of 12 percent from 1972. The leading States in employment were New York, Pennsylvania, and California, accounting for approximately 55 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of electron tubes only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electron tubes are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products.

The establishments in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3674, SEMICONDUCTORS AND RELATED DEVICES

This industry comprises establishments primarily engaged in the manufacture of semiconductors and related solid-state devices, such as semiconductor diodes and stacks, including rectifiers, integrated microcircuits (semiconductor networks), transistors, solar cells, light sensing and emitting semiconductor (solid-state) devices, micro-processors, and solid-state memory devices.

The total value of shipments for establishments classified in the Semiconductors and Related Devices industry amounted to $5,323 million in 1977, an increase of 98 percent from 1972.

The value of shipments of products classified as primary to the industry was $4,532 million, an increase of 92 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were integrated microcircuits and semiconductor networks, for which shipments increased 113 percent. Value added by manufacture, at $3,410 million in 1977, was 97 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 114.0 thousand employees, an increase of 17 percent from 1972. The leading States in employment were New York, Texas, Arizona, and California, accounting for approximately 70 percent of the industry's 1977 employment. These same States were in the forefront for 1972.

The 1977 census obtained data on shipments of semiconductors and related devices only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of semiconductors and related devices are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3675, ELECTRONIC CAPACITORS

This industry comprises establishments primarily engaged in the manufacture of capacitors for electronic end uses. Establishments primarily engaged in the manufacture of capacitors for electrical end uses are classified in industry 3629.

The total value of shipments for establishments classified in the Electronic Capacitors industry amounted to $742 million in 1977, an increase of 66 percent from 1972. The value of shipments of products classified as primary to the industry was $736 million, an increase of 62 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $486 million in 1977, was 63 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.9 thousand employees, an increase of 5 percent from 1972. The leading States in employment were Pennsylvania, North Carolina, South Carolina, and California, accounting for approximately 50 percent of the industry's 1977 employment. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of electronic capacitors only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electronic capacitors are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3676, ELECTRONIC RESISTORS

This industry comprises establishments primarily engaged in the manufacture of resistors for electronic end products. Establishments primarily engaged in the manufacture of resistors for telephone and telegraph apparatus are classified in industry 3661, and for electrical end uses in industry 3629.

The total value of shipments for establishments classified in the Electronic Resistors industry amounted to $578 million in 1977, an increase of 55 percent from 1972. The value of shipments of products classified as primary to the industry was $583 million, an increase of 33 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $401 million in 1977, was 52 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 21.3 thousand employees, an increase of 4 percent from 1972. The leading States in employment were Pennsylvania, Indiana, and California, accounting for approximately 50 percent of the industry's 1977 employment. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of electronic resistors only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electronic resistors are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3677, ELECTRONIC COILS AND TRANSFORMERS

This industry comprises establishments primarily engaged in the manufacture of electronic coils, transformers, and inductors. Establishments primarily engaged in the manufacture of transformers and inductors for telephone and telegraph apparatus are classified in industry 3661; electric lamps in industry 3641; semiconductor (solid state) and related devices in industry 3674; coils for electrical end uses in industry 3629; and electrical transformers in industry 3612.

The total value of shipments for establishments classified in the Electronic Coils and Transformers industry amounted to $506 million in 1977, an increase of 43 percent from 1972. The value of shipments of products classified as primary to the industry was $606 million, an increase of 57 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were plate and filament transformers, for which shipments increased 111 percent. Value added by manufacture, at $289 million in 1977, was 35 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 20.7 thousand employees, a decrease of 13 percent from 1972. The leading States in employment were New York, Illinois, and California, accounting for approximately 40 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of electronic coils and transformers only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electronic coils and transformers are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

INDUSTRY 3678, ELECTRONIC CONNECTORS

This industry comprises establishments primarily engaged in the manufacture of electronic connectors. Establishments primarily engaged in the manufacture of electronic capacitors are classified in industry 3675; electronic coils, transformers, and other inductors in industry 3677; and electrical connectors in industry 3643.

The total value of shipments for establishments classified in the Electronic Connectors industry amounted to $1,105 million in 1977, an increase of 125 percent from 1972. The value of shipments of products classified as primary to the industry was $986 million, an increase of 88 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were coaxial (radio frequency) connectors for which shipments increased 113 percent. Value added by manufacture, at $754 million in 1977, was 118 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 26.0 thousand employees, an increase of 44 percent from 1972. The leading States in employment were New York, Pennsylvania, Illinois, and California, accounting for approximately 70 percent of the industry's 1977 employment. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of electronic connectors only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electronic connectors are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of electronic components, not elsewhere classified, such as printed circuits, receiving antennas, switches, transducers, microwave devices, and electronic recording media.

The total value of shipments for establishments classified in the Electronic Components, N.E.C. industry amounted to $5,551 million in 1977, an increase of 83 percent from 1972. The value of shipments of products classified as primary to the industry was $5,574 million, an increase of 74 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were printed circuit boards, cables, and forms ready for component insertion for which shipments increased 323 percent, from $184 million to $780 million. Value added by manufacture, at $3,000 million in 1977, was 89 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 126.0 thousand employees, an increase of 25 percent from 1972. The leading States in

employment were Massachusetts, New York, Illinois, and California, accounting for approximately 40 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 55 percent of the industry's employment, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of electronic components, n.e.c. only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electronic components, n.e.c. are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-36N, Selected Electronic and Associated Products. Some of these data are also shown in table 6a.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 13 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3671, ELECTRON TUBES, ALL TYPES																
1977 Census..	126	146	60	36.7	514.1	27.5	53.7	324.5	909.6	683.7	1 581.7	51.2	(NA)	254.7	78	93
1976 ASM.....	(NA)	(NA)	(NA)	37.6	477.6	27.8	55.1	301.2	818.6	644.5	1 454.2	44.3	721.9	229.7	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	37.8	459.2	27.3	54.6	286.8	738.5	545.3	1 287.3	41.8	712.5	209.5	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	44.0	470.8	32.7	63.7	296.9	819.1	582.0	1 407.4	53.8	691.0	225.7	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	49.7	509.2	36.4	72.8	313.7	930.7	662.0	1 566.4	58.9	668.9	235.2	(NA)	(NA)
1972 Census..	133	153	72	47.1	468.4	34.0	67.8	276.8	862.1	553.9	1 406.2	41.5	632.3	193.0	87	97
1971 ASM.....	(NA)	(NA)	(NA)	43.3	386.0	31.9	62.4	235.0	730.4	443.9	1 181.9	27.8	607.7	162.2	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	50.1	408.0	36.3	70.4	245.4	732.0	429.5	1 158.4	26.7	605.4	182.1	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	58.4	440.8	43.3	85.2	276.3	854.4	516.9	1 378.4	36.5	658.6	188.4	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	64.6	450.8	48.0	94.2	283.7	926.4	559.6	1 479.1	35.5	629.6	180.1	(NA)	(NA)
1967 Census..	166	194	80	66.8	436.6	50.5	98.5	277.3	926.8	558.9	1 502.3	66.1	615.9	197.9	94	97
1966 ASM.....	(NA)	(NA)	(NA)	68.5	448.5	53.6	110.4	300.8	968.1	580.0	1 518.5	99.2	(NA)	205.9	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	54.0	355.8	40.5	82.4	221.2	698.4	364.9	1 059.2	59.7	(NA)	145.8	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	49.9	312.8	36.5	73.1	190.4	556.7	303.3	868.8	32.8	404.3	132.9	(NA)	(NA)
1963 Census..	223	250	95	55.5	333.0	40.0	78.3	201.4	583.7	314.5	889.7	35.0	372.8	150.7	(NA)	(NA)
INDUSTRY 3674, SEMICONDUCTORS AND RELATED DEVICES																
1977 Census..	502	545	219	114.0	1 601.1	63.5	126.5	670.3	3 409.6	2 011.2	5 322.6	409.0	(NA)	909.5	93	94
1976 ASM.....	(NA)	(NA)	(NA)	102.5	1 371.2	57.9	118.8	529.6	2 858.8	1 623.7	4 473.8	362.3	2 348.5	812.1	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	96.7	1 200.5	52.4	103.9	451.1	2 182.4	1 093.9	3 276.9	282.9	2 175.3	777.4	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	133.1	1 466.6	81.6	159.1	626.0	2 738.2	1 756.5	4 305.1	479.2	2 044.0	917.0	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	120.0	1 201.0	74.7	148.2	552.7	2 372.9	1 360.9	3 647.7	334.6	1 677.4	660.2	(NA)	(NA)
1972 Census..	288	325	196	97.6	953.1	58.4	116.3	419.8	1 735.1	931.4	2 704.8	170.5	1 466.4	502.8	89	92
1971 ASM.....	(NA)	(NA)	(NA)	74.7	658.1	45.5	90.0	299.9	1 076.3	502.2	1 599.6	94.8	1 029.0	363.4	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	88.5	663.6	60.3	112.4	345.4	972.0	533.3	1 501.2	98.4	868.1	294.6	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	98.5	706.3	69.3	137.4	389.0	1 061.4	544.6	1 572.9	143.6	821.1	295.8	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	87.4	603.5	60.5	121.4	340.3	921.0	405.9	1 317.2	118.4	737.9	230.5	(NA)	(NA)
1967 Census..	141	177	117	85.4	545.1	57.9	118.1	307.3	820.2	337.6	1 141.0	131.1	644.9	214.1	92	87
1966 ASM.....	(NA)	(NA)	(NA)	82.2	494.2	59.1	118.1	274.3	835.3	316.7	1 123.7	123.6	(S)	189.1	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	67.4	401.4	48.7	98.9	228.0	680.1	241.5	911.7	61.3	(S)	149.8	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	55.3	327.2	38.0	77.4	176.0	514.8	205.1	716.4	43.4	(S)	124.7	(NA)	(NA)
1963 Census..	86	107	87	56.3	320.9	37.5	77.1	168.5	467.0	199.4	687.8	52.4	379.4	118.2	88	92
INDUSTRY 3675, ELECTRONIC CAPACITORS[3]																
1977 Census..	86	118	97	28.9	260.5	23.4	45.7	179.0	486.1	266.2	742.3	34.0	(NA)	152.4	92	91
1976 ASM.....	(NA)	(NA)	(NA)	27.2	227.2	21.5	40.5	150.1	404.3	233.5	629.1	22.5	217.1	138.7	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	23.4	183.9	17.9	34.1	120.6	320.7	174.4	506.9	15.7	203.7	126.0	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	33.6	232.5	27.6	52.4	161.7	443.4	246.2	672.7	31.2	207.2	151.0	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	34.3	218.3	28.5	56.0	158.0	406.6	206.9	605.0	25.8	171.6	123.6	(NA)	(NA)
1972 Census..	79	113	101	27.6	169.2	22.5	44.5	119.6	298.6	152.9	445.8	13.4	153.6	99.6	90	87
INDUSTRY 3676, ELECTRONIC RESISTORS[3]																
1977 Census..	76	101	80	21.3	210.9	15.9	32.4	130.6	401.0	186.2	578.3	25.1	(NA)	104.2	87	81
1976 ASM.....	(NA)	(NA)	(NA)	17.4	168.4	12.5	25.7	103.1	316.5	149.1	461.5	18.7	183.9	90.9	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	16.6	148.2	11.7	23.0	86.5	266.7	113.7	387.3	9.8	180.4	85.6	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	23.4	187.9	17.3	33.8	116.7	335.8	142.3	471.2	21.7	172.9	95.1	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	24.3	187.6	18.9	37.8	123.7	339.6	150.0	477.8	18.1	157.1	83.8	(NA)	(NA)
1972 Census..	67	86	78	20.5	144.5	15.7	31.3	93.9	263.5	111.6	372.2	10.4	140.6	62.7	90	74
INDUSTRY 3677, ELECTRONIC COILS AND TRANSFORMERS[3]																
1977 Census..	277	294	194	20.7	166.6	17.1	31.8	113.1	289.1	221.0	506.4	9.5	(NA)	74.5	9	75
1976 ASM.....	(NA)	(NA)	(NA)	17.9	150.9	14.7	27.3	100.0	249.1	204.2	446.4	7.8	79.0	95.0	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	17.0	142.0	13.3	25.3	88.1	229.6	173.0	406.7	13.7	92.2	76.0	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	21.9	153.5	18.2	34.2	104.1	268.0	198.0	462.0	10.2	77.2	84.9	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	23.9	141.8	19.8	36.8	103.5	225.0	176.0	403.4	8.7	105.8	68.5	(NA)	(NA)
1972 Census..	215	246	204	23.9	142.0	19.2	37.0	97.6	213.9	146.1	354.1	8.8	105.1	59.3	87	79
INDUSTRY 3678, ELECTRONIC CONNECTORS[3]																
1977 Census..	109	133	107	26.0	303.6	19.1	37.6	185.1	754.2	371.7	1 104.6	40.4	(NA)	234.5	78	86
1976 ASM.....	(NA)	(NA)	(NA)	22.1	242.3	15.8	30.9	143.3	573.4	277.8	846.0	26.1	265.9	199.1	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	22.9	232.7	16.2	31.4	136.6	502.9	245.6	772.6	27.3	243.1	187.2	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	24.7	224.2	18.0	35.9	137.4	548.9	259.1	776.2	26.6	201.6	191.2	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	23.4	194.4	17.5	35.4	124.0	450.0	226.0	653.8	17.9	178.8	139.7	(NA)	(NA)
1972 Census..	75	92	80	18.1	141.2	13.5	26.8	90.2	345.6	141.0	483.3	12.2	153.5	95.5	87	81

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees of more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.[3]															
1977 Census..	2 991	3 119	915	126.0	1 500.1	91.4	181.0	855.0	3 006.7	2 651.3	5 551.0	212.3	(NA)	1 043.9	79	74
1976 ASM.....	(NA)	(NA)	(NA)	98.3	1 125.8	68.6	140.4	636.3	2 347.2	1 875.1	4 121.6	168.9	1 411.4	754.9	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	87.9	991.0	58.8	117.0	535.6	1 742.8	1 637.8	3 451.3	144.9	1 261.1	588.0	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	101.0	950.4	70.9	140.7	531.4	1 809.6	1 450.8	3 206.3	162.6	1 075.3	621.1	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	119.2	1 021.9	87.4	168.9	595.3	1 871.1	1 655.3	3 428.8	164.8	1 123.2	654.3	(NA)	(NA)
1972 Census..	1 745	1 850	706	100.5	846.4	70.0	136.2	458.0	1 577.2	1 425.2	3 046.6	86.1	1 049.5	481.9	79	73

(NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3671, ELECTRON TUBES, ALL TYPES											
1977 Census..	13 997	(NA)	74	1 955	6.04	43	75	(NA)	24 765	56	16.94
1976 ASM.....	12 702	19 199	73	1 982	5.46	44	77	49	21 771	58	14.85
1975 ASM.....	12 148	18 849	72	2 000	5.25	42	78	55	19 537	62	13.52
1974 ASM.....	10 700	15 704	74	1 948	4.66	41	74	49	18 615	57	12.85
1973 ASM.....	10 245	13 458	73	2 000	4.30	42	74	42	18 726	54	12.78
1972 Census..	9 948	13 425	72	1 994	4.08	39	73	45	18 304	54	12.72
1971 ASM.....	8 915	14 035	74	1 956	3.77	38	70	51	16 868	53	11.71
1970 ASM.....	8 144	12 083	72	1 937	3.49	37	72	52	14 611	56	10.40
1969 ASM.....	7 548	11 277	74	1 968	3.24	38	69	48	14 630	52	10.03
1968 ASM.....	6 978	9 746	74	1 963	3.01	38	68	43	14 341	49	9.83
1967 Census..	6 536	9 220	76	1 950	2.82	37	66	41	13 874	47	9.41
1966 ASM.....	6 547	(NA)	78	2 060	2.72	38	68	(NA)	14 133	46	8.77
1965 ASM.....	6 589	(NA)	75	2 034	2.68	34	68	(NA)	12 933	51	7.56
1964 ASM.....	6 269	8 102	73	2 003	2.60	35	71	47	11 156	56	7.62
1963 Census..	6 000	6 717	72	1 958	2.57	35	73	42	10 517	57	7.45
INDUSTRY 3674, SEMICONDUCTORS AND RELATED DEVICES											
1977 Census..	14 043	(NA)	55	1 991	5.29	38	68	(NA)	29 909	47	26.95
1976 ASM.....	13 377	22 912	56	2 051	4.45	36	66	52	27 890	47	24.06
1975 ASM.....	12 414	22 495	54	1 982	4.34	33	70	66	22 568	55	21.00
1974 ASM.....	11 018	15 356	61	1 949	3.93	40	74	47	20 572	53	17.21
1973 ASM.....	10 008	13 978	62	1 983	3.72	37	70	45	19 774	50	16.01
1972 Census..	9 765	15 024	59	1 991	3.60	34	69	54	17 777	54	14.91
1971 ASM.....	8 809	13 775	60	1 978	3.33	31	72	64	14 408	61	11.95
1970 ASM.....	7 498	9 809	68	1 864	3.07	35	79	57	10 983	68	8.64
1969 ASM.....	7 148	8 310	70	1 982	2.83	34	79	52	10 742	66	7.72
1968 ASM.....	6 905	8 442	69	2 006	2.80	30	76	56	10 537	65	7.58
1967 Census..	6 382	7 551	67	2 039	2.60	29	77	56	9 604	66	6.94
1966 ASM.....	6 012	(S)	71	1 998	2.32	28	72	(S)	10 161	59	7.07
1965 ASM.....	5 955	(S)	72	2 030	2.30	26	70	(S)	10 090	59	6.87
1964 ASM.....	5 916	(S)	68	2 036	2.27	28	74	(S)	9 309	63	6.65
1963 Census..	5 699	6 738	66	2 056	2.18	28	75	55	8 294	68	6.05
INDUSTRY 3675, ELECTRONIC CAPACITORS											
1977 Census..	9 028	(NA)	81	1 953	3.91	35	70	(NA)	16 848	53	10.63
1976 ASM.....	8 352	7 981	79	1 883	3.70	37	73	34	14 863	56	9.98
1975 ASM.....	7 858	8 705	76	1 905	3.53	34	70	40	13 705	57	9.40
1974 ASM.....	6 919	6 166	82	1 898	3.08	36	71	30	13 196	52	8.46
1973 ASM.....	6 364	5 002	83	1 964	2.82	34	70	28	11 854	53	7.26
1972 Census..	6 130	5 565	81	1 977	2.68	34	72	34	10 818	56	6.71
INDUSTRY 3676, ELECTRONIC RESISTORS											
1977 Census..	9 879	(NA)	74	2 043	4.02	32	68	(NA)	18 781	52	12.36
1976 ASM.....	9 678	10 568	71	2 056	4.01	32	68	39	18 189	53	12.31
1975 ASM.....	8 927	10 867	70	1 965	3.76	29	67	46	16 066	55	11.59
1974 ASM.....	8 029	7 388	73	1 953	3.45	30	70	36	14 350	55	9.93
1973 ASM.....	7 720	6 365	77	2 000	3.27	31	70	32	13 975	55	8.98
1972 Census..	7 048	6 858	76	1 993	3.00	29	68	37	12 853	54	8.41
INDUSTRY 3677, ELECTRONIC COILS AND TRANSFORMERS											
1977 Census..	8 069	(NA)	82	1 858	3.55	43	76	(NA)	13 997	57	9.07
1976 ASM.....	8 430	4 413	82	1 857	3.66	45	79	17	13 916	60	9.12
1975 ASM.....	8 352	5 423	78	1 902	3.48	42	77	22	13 505	61	9.07
1974 ASM.....	7 009	3 525	83	1 879	3.04	42	76	16	12 237	57	7.83
1973 ASM.....	5 933	4 426	82	1 858	2.81	43	78	26	9 414	63	6.11
1972 Census..	5 941	4 397	80	1 927	2.63	41	81	29	8 949	66	5.78
INDUSTRY 3678, ELECTRONIC CONNECTORS											
1977 Census..	11 695	(NA)	73	1 967	4.92	33	61	(NA)	29 054	40	20.07
1976 ASM.....	10 963	12 031	71	1 955	4.63	32	61	31	25 945	42	18.55
1975 ASM.....	10 161	10 615	70	1 938	4.35	31	61	31	21 960	46	16.01
1974 ASM.....	9 076	8 161	72	1 994	3.82	33	62	25	22 222	40	15.28
1973 ASM.....	8 307	7 641	74	2 022	3.50	34	64	27	19 230	43	12.71
1972 Census..	7 801	8 480	74	1 985	3.36	29	58	31	19 093	40	12.89

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets of percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.										
1977 Census..	11 905	(NA)	73	1 980	4.72	48	75	(NA)	23 863	50	16.61
1976 ASM.....	11 452	14 358	69	2 046	4.53	45	72	34	23 877	47	16.71
1975 ASM.....	11 274	14 346	66	1 989	4.57	47	76	36	19 827	56	14.89
1974 ASM.....	9 409	10 646	70	1 984	3.77	45	74	33	17 916	52	12.86
1973 ASM.....	8 572	9 422	73	1 932	3.52	48	78	32	15 697	54	11.07
1972 Census..	8 422	10 433	70	1 946	3.36	47	75	34	15 693	54	10.46

Note: For qualifications to data, see footnotes on table 1a.
(NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3671, ELECTRON TUBES, ALL TYPES													
United States	-	146	60	36.7	514.1	27.5	53.7	324.5	909.6	683.7	1 581.7	51.2	47.1	882.1
New England Division:													
Massachusetts	-	7	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Rhode Island	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	-	12	6	3.0	42.7	2.1	4.2	24.8	80.0	67.7	149.8	3.0	(NA)	(NA)
New Jersey	-	13	5	1.1	14.2	0.8	1.5	6.8	22.4	15.2	36.1	2.2	(NA)	(D)
Pennsylvania	-	14	10	6.4	85.2	4.9	9.1	53.2	146.4	126.1	272.5	7.6	(NA)	(D)
East North Central Division:														
Ohio	-	4	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	5	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	9	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Minnesota	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Florida	-	7	3	0.2	1.5	0.2	0.4	1.1	4.5	1.1	5.5	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	E1	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Utah	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	32	13	10.4	174.1	7.2	14.7	102.9	274.3	128.3	397.2	20.8	(NA)	(NA)
INDUSTRY 3674, SEMICONDUCTORS AND RELATED DEVICES														
United States	-	545	219	114.0	1 601.1	63.5	126.5	670.3	3 409.6	2 011.2	5 322.6	409.0	97.6	1 735.1
New England Division:														
Maine	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Vermont	-	2	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	E1	46	23	4.7	52.2	3.2	6.2	26.3	112.6	50.7	164.5	10.8	(NA)	(D)
Rhode Island	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	13	6	0.7	8.2	0.5	1.0	3.4	11.9	10.6	23.1	2.4	0.4	6.7
Middle Atlantic Division:														
New York	-	59	22	12.7	231.3	3.8	7.7	41.5	422.4	333.7	721.4	(D)	13.1	269.4
New Jersey	E3	34	11	2.6	45.6	1.1	2.2	13.9	34.4	17.3	51.0	5.0	2.8	17.8
Pennsylvania	-	31	16	10.6	162.2	8.0	15.4	107.9	359.9	157.0	514.8	36.6	10.3	205.3
East North Central Division:														
Ohio	-	13	5	1.9	23.6	1.5	2.8	14.9	90.4	21.8	112.9	(D)	(NA)	(D)
Indiana	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Florida	E1	19	9	3.1	32.7	2.3	4.9	19.5	73.0	42.1	112.9	9.3	(NA)	(D)
East South Central Division:														
Tennessee	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Oklahoma	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	36	16	19.5	255.0	13.0	26.9	156.7	568.6	305.3	849.9	65.7	(NA)	(D)
Mountain Division:														
Idaho	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Colorado	E1	8	3	0.4	3.7	0.2	0.4	1.6	5.0	5.2	9.1	(D)	(NA)	(NA)
Arizona	-	16	9	14.3	167.9	7.0	13.0	66.1	312.7	156.8	460.6	30.9	(NA)	(D)
Utah	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Oregon	E1	4	2	0.3	2.5	0.2	0.5	2.0	5.7	3.4	8.7	(D)	(NA)	(NA)
California	-	180	80	33.3	467.8	18.1	36.6	177.2	1 172.6	684.1	1 851.1	123.7	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3675, ELECTRONIC CAPACITORS														
United States	-	**118**	**97**	**28.9**	**260.5**	**23.4**	**45.7**	**179.0**	**486.1**	**266.2**	**742.3**	**34.0**	**27.6**	**298.6**
New England Division:														
Maine	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Hampshire	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Vermont	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	E2	8	6	1.3	11.2	1.0	1.9	7.3	17.8	11.9	29.2	1.8	(NA)	(D)
Middle Atlantic Division:														
New York	-	12	9	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	15.8
New Jersey	-	9	7	0.7	8.0	0.6	1.0	4.7	16.0	5.5	21.7	0.6	0.7	8.7
Pennsylvania	-	8	7	1.7	15.7	1.2	2.6	10.4	23.6	15.1	38.9	(D)	1.8	15.9
East North Central Division:														
Indiana	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	9	6	0.5	5.1	0.3	0.6	2.4	7.7	2.9	10.5	0.3	(NA)	(D)
Wisconsin	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Nebraska	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Virginia	-	4	4	1.5	12.3	1.4	2.9	10.6	23.8	10.7	34.3	0.8	1.5	15.9
North Carolina	-	4	4	1.8	15.7	1.6	3.0	12.8	38.9	22.0	60.0	1.9	1.6	22.7
South Carolina	-	6	5	6.3	59.1	5.1	10.4	40.4	109.6	72.9	179.4	(D)	(NA)	(D)
Georgia	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Arizona	E1	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	27	21	3.7	33.1	3.1	5.6	21.4	62.0	23.4	84.4	3.7	(NA)	(D)
INDUSTRY 3676, ELECTRONIC RESISTORS														
United States	-	**101**	**80**	**21.3**	**210.9**	**15.9**	**32.4**	**130.6**	**401.0**	**186.2**	**578.3**	**25.1**	**20.5**	**263.5**
New England Division:														
Maine	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Hampshire	-	5	4	1.3	9.7	1.1	2.2	6.7	15.8	7.6	23.3	(D)	(NA)	(D)
Massachusetts	-	7	7	0.7	7.7	0.4	0.9	3.2	14.5	3.7	18.1	0.4	(NA)	(D)
Middle Atlantic Division:														
New York	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	9	8	0.8	7.2	0.7	1.3	4.8	13.8	6.6	20.2	(D)	(NA)	(D)
Pennsylvania	-	11	8	2.7	31.0	2.3	4.5	24.2	57.4	36.7	93.8	2.6	(NA)	(D)
East North Central Division:														
Ohio	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	9	7	3.9	40.8	3.0	5.9	28.1	72.0	30.7	101.5	(D)	(NA)	(D)
Illinois	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	4	3	0.2	2.1	0.2	0.4	1.4	4.2	4.0	8.1	0.4	(NA)	(NA)
West North Central Division:														
Iowa	-	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	-	7	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	26.8
Florida	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	3	3	1.1	9.9	0.7	1.5	5.6	24.4	13.6	36.5	2.0	(NA)	(D)
Pacific Division:														
California	-	17	13	3.9	41.2	2.7	6.3	19.1	70.6	37.8	105.9	4.8	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3677, ELECTRONIC COILS AND TRANSFORMERS														
United States	-	**294**	**194**	**20.7**	**166.6**	**17.1**	**31.0**	**113.1**	**289.1**	**221.0**	**506.4**	**9.5**	**23.9**	**213.9**
New England Division:														
Massachusetts	E2	11	10	0.7	5.9	0.6	1.1	4.1	8.7	5.6	14.4	0.2	(NA)	(D)
Connecticut	-	6	4	0.4	2.9	0.4	0.7	2.2	4.4	4.1	8.5	(D)	0.4	2.8
Middle Atlantic Division:														
New York	-	29	23	2.6	20.8	2.0	3.6	12.2	33.1	15.1	47.2	(D)	4.4	31.8
New Jersey	E3	20	12	0.8	7.8	0.6	1.2	4.5	12.6	8.4	21.0	0.6	0.9	8.3
Pennsylvania	-	14	10	1.8	15.3	1.6	3.3	11.1	25.9	10.3	35.1	1.1	1.3	19.6
East North Central Division:														
Ohio	E1	8	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	14.7
Indiana	-	12	10	1.6	11.3	1.5	2.7	9.1	20.9	14.2	.8	(D)	2.1	16.7
Illinois	E1	59	42	3.8	30.1	3.2	6.0	20.5	60.5	45.6	105.7	1.4	4.2	33.2
Michigan	E2	10	4	0.3	2.3	0.2	0.4	1.6	3.7	3.4	7.1	0.1	0.6	5.9
Wisconsin	E1	6	3	0.4	2.5	0.3	0.5	1.7	3.7	3.1	6.8	0.1	0.7	5.6
West North Central Division:														
Minnesota	-	7	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	5	5	1.8	13.9	1.7	2.9	12.2	20.3	26.1	46.2	0.2	(NA)	(D)
Missouri	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Dakota	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
South Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	11	7	0.9	8.7	0.7	1.4	4.6	17.5	17.9	33.3	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	8	5	0.4	2.5	0.3	0.6	1.9	4.7	4.4	9.1	0.1	(NA)	(D)
Pacific Division:														
California	E2	53	29	1.9	17.2	1.5	2.7	10.8	32.3	24.8	59.1	1.1	(NA)	(D)
INDUSTRY 3678, ELECTRONIC CONNECTORS														
United States	-	**133**	**107**	**26.0**	**303.6**	**19.1**	**37.6**	**185.1**	**754.2**	**371.7**	**1 104.6**	**40.4**	**18.1**	**345.6**
New England Division:														
New Hampshire	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	10	7	0.6	7.0	0.5	0.9	4.2	15.1	7.0	20.7	0.2	0.2	4.1
Connecticut	-	8	7	1.7	19.4	1.3	2.6	14.4	48.6	29.0	77.4	3.8	1.5	31.8
Middle Atlantic Division:														
New York	-	14	10	5.1	56.6	3.6	6.9	33.5	101.1	40.3	136.8	5.8	4.8	64.3
New Jersey	-	5	3	0.3	3.0	0.2	0.4	1.9	8.1	8.0	16.0	(D)	(NA)	(D)
Pennsylvania	-	16	14	4.0	52.3	3.2	6.3	34.2	193.2	96.2	286.3	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	5	5	0.3	3.1	0.2	0.4	1.5	7.6	3.4	10.6	(D)	(NA)	(D)
Indiana	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	8	8	3.1	37.1	2.1	4.1	21.1	66.4	44.9	109.5	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	5	3	0.5	5.4	0.4	0.8	3.4	12.8	5.8	18.0	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	-	4	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	E2	3	3	0.4	3.9	0.3	0.7	3.1	11.4	6.9	17.9	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Arizona	E1	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	33	23	6.4	78.8	4.5	8.9	43.6	159.7	66.9	221.9	18.0	(NA)	(D)
INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.														
United States	E1	**3 119**	**915**	**126.0**	**1 500.1**	**91.4**	**181.0**	**655.0**	**3 000.1**	**2 658.0**	**5 551.0**	**212.3**	**101.2**	**1 586.9**
New England Division:														
Maine	-	10	8	0.6	5.3	0.5	1.1	3.8	11.5	5.5	16.6	(D)	(NA)	(D)
New Hampshire	-	33	8	1.9	17.2	1.7	3.1	12.2	62.9	15.7	75.1	4.4	1.0	16.5
Massachusetts	E1	194	81	9.5	105.2	6.5	13.3	55.5	216.0	138.1	346.9	14.4	7.2	108.0
Rhode Island	E2	14	3	0.4	4.4	0.4	0.8	3.2	5.8	4.2	10.0	0.4	(NA)	(D)
Connecticut	E1	95	40	4.4	47.5	3.4	6.9	30.1	103.3	81.3	184.7	8.8	3.1	42.8
Middle Atlantic Division:														
New York	-	283	73	19.2	300.2	11.4	22.2	129.4	586.6	861.2	1 411.2	55.1	19.0	413.6
New Jersey	E1	233	84	7.7	87.5	5.6	11.1	48.0	183.7	124.0	305.2	10.0	6.7	111.3
Pennsylvania	-	131	46	8.0	89.6	6.2	11.7	57.5	173.1	261.2	434.2	7.4	5.4	78.6

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.—Con.														
East North Central Division:														
Ohio	–	99	33	2.8	29.3	2.1	4.1	18.8	72.1	46.5	117.1	3.0	2.3	35.5
Indiana	E1	51	13	1.3	9.4	1.0	1.9	6.3	19.9	20.3	40.2	2.8	(NA)	(D)
Illinois	E1	185	76	12.7	136.0	9.6	20.2	86.9	254.6	195.4	452.5	11.2	12.3	155.5
Michigan	E2	75	17	1.3	12.2	1.0	1.8	7.0	24.1	21.8	45.9	1.2	1.5	9.4
Wisconsin	E1	45	12	1.4	15.1	1.1	2.0	9.8	42.5	22.8	64.3	1.9	(NA)	(D)
West North Central Division:														
Minnesota	E4	68	25	4.2	46.9	3.1	6.1	31.2	89.5	44.3	132.1	3.5	2.5	43.0
Iowa	E4	21	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	–	33	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	13.6
South Dakota	–	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	E5	25	4	0.4	3.5	0.3	0.6	2.0	6.4	4.7	11.0	0.3	0.9	9.7
South Atlantic Division:														
Maryland	E1	47	15	1.5	14.7	1.2	2.3	9.3	29.2	15.3	43.2	(D)	(NA)	(D)
Virginia	E1	34	5	0.8	7.6	0.6	1.2	4.8	12.4	11.1	23.5	1.1	1.1	12.1
North Carolina	–	22	6	0.6	4.9	0.6	1.0	3.3	11.2	14.8	21.9	(D)	(NA)	(D)
Georgia	E6	14	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	E1	107	23	3.9	45.9	2.6	5.0	22.1	87.3	62.3	128.5	6.4	3.8	54.3
East South Central Division:														
Kentucky	E1	6	3	0.2	1.8	0.2	0.4	1.3	4.4	2.6	7.0	(D)	(NA)	(D)
Tennessee	–	21	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	–	18	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	–	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Oklahoma	E1	26	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	E3	141	24	2.1	23.5	1.6	3.1	12.7	46.7	33.1	79.7	2.3	(NA)	(D)
Mountain Division:														
Colorado	E3	44	10	0.8	7.4	0.7	1.3	4.3	12.6	9.0	21.6	0.7	(NA)	(D)
New Mexico	E3	15	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Arizona	E2	49	13	1.4	14.5	1.0	2.1	8.0	28.5	13.8	41.7	(D)	(NA)	(D)
Pacific Division:														
Washington	E5	39	4	0.5	4.8	0.4	0.7	3.0	10.2	5.1	15.5	0.5	(NA)	(D)
Oregon	E2	29	10	0.9	8.7	0.6	1.4	5.0	16.4	7.6	24.0	(D)	(NA)	(D)
California	E1	834	233	25.5	311.9	18.9	37.1	179.4	604.2	402.5	990.7	45.5	15.2	258.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Electron tubes (SIC 3671)	Semiconductors and related devices (SIC 3674)	Electronic capacitors (SIC 3675)	Electronic resistors (SIC 3676)	Electronic coils and transformers (SIC 3677)	Electronic connectors (SIC 3678)	Electronic components, n.e.c. (SIC 3679)
Primary product specialization ratio[1]	percent	78	93	92	87	91	78	80
Coverage ratio[2]	do	93	94	91	81	75	86	74
All establishments	number	146	545	118	101	294	133	3 119
With 1 to 19 employees	do	86	326	21	21	100	26	2 204
With 20 to 99 employees	do	18	88	31	33	136	49	549
With 100 employees or more	do	42	131	66	47	58	58	266
All employees, average for year	1,000	36.7	114.0	28.9	21.3	20.7	26.0	126.0
Payroll for year, all employees	mil. dol.	514.1	1 601.1	260.5	210.9	166.6	303.6	1 500.1
Production workers:								
Average for year	1,000	27.5	63.5	23.4	15.9	17.1	19.1	91.4
March	do	26.7	61.6	22.7	15.2	16.8	18.2	88.3
May	do	27.2	62.3	23.2	15.8	17.1	18.7	89.6
August	do	27.8	64.5	23.9	16.6	17.3	19.6	92.6
November	do	26.1	65.6	23.9	16.0	17.2	19.9	94.7
Hours	millions	53.7	126.5	45.7	32.4	31.8	37.6	181.0
January to March	do	13.1	30.8	10.8	7.6	7.6	8.9	43.6
April to June	do	13.8	31.5	11.5	8.2	8.2	9.3	45.5
July to September	do	13.0	31.8	11.5	8.3	7.9	9.5	44.6
October to December	do	13.7	32.5	11.9	8.3	[illegible]	9.9	47.2
Wages	mil. dol.	324.5	670.3	179.0	130.6	[illegible]	185.1	855.0
Cost of materials, etc.	do	683.7	2 011.2	266.2	186.2	221.0	371.7	2 658.0
Materials, parts, containers, etc., consumed	do	618.8	1 424.6	245.3	145.6	209.0	343.2	2 293.6
Resales	do	20.0	403.5	3.3	19.0	3.4	1.8	226.4
Fuels consumed	do	9.4	14.4	3.6	1.8	1.1	2.0	16.9
Purchased electric energy	do	20.9	68.5	12.9	7.1	3.7	9.4	49.5
Contract work	do	14.6	100.3	1.1	12.7	3.7	15.3	71.6
Value of shipments, including resales	do	1 581.7	5 322.6	742.3	578.3	506.4	1 104.6	5 551.0
Value of resales	do	27.7	670.8	5.0	29.6	5.2	2.3	242.4
Value added by manufacture	do	909.6	3 409.6	486.1	401.0	289.1	754.2	3 000.1
Manufacturers' inventories:								
Beginning of year	do	231.1	819.3	135.8	93.7	73.2	204.5	888.4
Finished products	do	69.9	167.1	26.2	26.3	9.2	52.0	161.2
Work in process	do	94.0	441.3	62.2	31.2	22.6	107.0	443.0
Materials, supplies, fuel, etc.	do	67.2	210.9	47.4	36.2	41.4	45.5	284.3
End of year	do	254.7	909.5	152.4	104.2	74.5	234.5	1 043.9
Finished products	do	72.0	179.1	27.5	29.3	8.5	57.3	165.0
Work in process	do	103.6	527.4	70.9	37.0	26.9	123.0	546.2
Materials, supplies, fuel, etc.	do	79.2	202.9	54.0	37.8	39.1	54.2	332.8
Capital expenditures for plant and equipment	do	54.4	447.0	36.0	28.8	10.5	43.1	237.6
New capital expenditures	do	51.2	409.0	34.0	25.1	9.5	40.4	212.3
New buildings and other structures	do	13.9	60.8	6.7	2.7	2.1	3.9	34.9
New machinery and equipment	do	37.4	348.2	27.3	22.4	7.4	36.6	177.4
Used capital expenditures	do	3.1	38.0	2.0	3.7	1.0	2.7	25.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Electron tubes, all types (SIC 3671)		Semiconductors and related devices (SIC 3674)		Electronic capacitors (SIC 3675)		Electronic resistors (SIC 3676)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	3.4	2	9.0	7	2.6	8	0.7	5
Response coverage ratio[2] (percent)	88	(X)	66	(X)	52	(X)	79	(X)
Machinery	9.1	2	20.4	11	8.4	4	3.8	4
Response coverage ratio[2] (percent)	65	(X)	70	(X)	56	(X)	71	(X)
Cost of purchased communication services	6.9	2	30.2	5	3.4	9	(2.2)	17
Response coverage ratio[2] (percent)	69	(X)	64	(X)	57	(X)	77	(X)
Rental payments	10.9	2	41.8	6	6.5	5	5.0	4
Buildings and other structures	5.0	2	17.5	12	3.0	11	1.6	11
Machinery and equipment	5.9	3	24.3	7	3.5	4	3.4	4
Supplemental labor costs	102.2	1	294.0	1	43.5	3	35.9	4
Legal costs	39.3	1	117.3	1	21.2	1	17.6	2
Voluntary costs	62.9	2	176.7	2	22.3	5	18.3	6
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	190.6	2	705.7	2	49.4	4	41.2	3
New capital expenditures	15.5	3	62.4	7	4.8	5	(1.4)	16
Used capital expenditures	0.3	1	8.3	1	0.2	1	0.7	1
Retirements	2.6	1	(6.0)	80	1.8	3	1.2	4
End of year	203.7	2	770.5	2	52.6	4	42.0	3
Machinery and equipment:								
Beginning of year	489.1	2	1,695.6	1	168.9	3	160.3	3
New capital expenditures	36.2	1	347.0	2	26.2	2	18.6	3
Automobiles, trucks, etc., for highway use[3]	(0.5)	(A)	(2.1)	(A)	(0.3)	(A)	(0.2)	(A)
Computers and peripheral data processing equipment[3]	(1.5)	(A)	(11.7)	(A)	(0.8)	(A)	(0.3)	(A)
All other[3]	(30.0)	67	314.1	6	(18.6)	(A)	(17.6)	(A)
New machinery and equipment, n.s.k.[4]	(4.1)	(A)	(19.1)	(A)	(6.5)	(A)	(0.5)	(A)
Used capital expenditures	2.9	1	30.5	3	1.8	1	3.0	1
Retirements	46.2	1	140.9	2	9.8	4	11.2	3
End of year	482.0	2	1,932.2	1	187.1	2	170.7	3
Total gross value of depreciable assets:								
Beginning of year	679.7	2	2,401.3	1	218.3	3	201.5	3
New capital expenditures	51.7	1	409.4	2	31.0	3	19.9	4
Used capital expenditures	3.1	1	38.8	2	2.0	1	3.7	1
Retirements	48.8	1	146.9	4	11.6	4	12.4	3
End of year	685.7	2	2,702.7	1	239.7	3	212.7	3
Depreciation charges during 1977	35.1	4	239.9	1	20.4	3	16.5	3
Buildings and other structures	6.3	3	36.0	3	2.7	4	1.5	3
Machinery and equipment	28.8	4	203.9	1	17.7	3	15.0	3

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Electronic coils and transformers (SIC 3677)		Electronic connectors (SIC 3678)		Electronic components, n.e.c. (SIC 3679)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(0.7)	(A)	1.5	6	16.3	5
Response coverage ratio[2] (percent)	56	(X)	72	(X)	59	(X)
Machinery	(1.7)	(A)	7.1	3	20.1	9
Response coverage ratio[2] (percent)	58	(X)	83	(X)	64	(X)
Cost of purchased communication services	(1.6)	(A)	4.6	10	15.7	8
Response coverage ratio[2] (percent)	49	(X)	71	(X)	24	(X)
Rental payments	(3.1)	15	5.6	4	34.6	5
Buildings and other structures	(2.3)	21	2.9	8	19.9	6
Machinery and equipment	(0.7)	22	2.7	3	14.8	7
Supplemental labor costs	25.2	7	58.2	2	252.3	2
Legal costs	14.4	3	26.3	2	116.9	1
Voluntary costs	(10.8)	15	31.9	2	135.4	3
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	(24.5)	15	75.1	2	455.3	2
New capital expenditures	(1.4)	25	3.6	5	(40.2)	16
Used capital expenditures	-	(X)	1.2	2	12.0	11
Retirements	(0.4)	26	2.5	2	7.2	10
End of year	(25.5)	15	77.3	2	500.2	2
Machinery and equipment:						
Beginning of year	62.9	14	229.4	2	1,132.0	2
New capital expenditures	(7.9)	(A)	35.2	2	180.2	6
Automobiles, trucks, etc., for highway use[3]	(0.2)	(A)	(0.3)	(A)	(3.7)	(A)
Computers and peripheral data processing equipment[3]	(0.2)	(A)	(0.9)	(A)	(11.5)	(A)
All other[3]	(6.8)	(A)	(28.3)	71	(122.5)	16
New machinery and equipment, n.s.k.[4]	(0.7)	(A)	(5.7)	(A)	(42.4)	(A)
Used capital expenditures	(0.8)	24	(1.1)	16	15.2	11
Retirements	(3.1)	15	10.7	4	68.8	3
End of year	68.5	11	255.1	1	1,258.5	2
Total gross value of depreciable assets:						
Beginning of year	87.4	12	304.5	2	1,587.3	2
New capital expenditures	(9.3)	(A)	38.8	2	220.3	7
Used capital expenditures	(0.9)	24	2.3	8	27.2	8
Retirements	(3.5)	15	13.2	4	76.0	3
End of year	94.1	8	332.4	1	1,758.8	2
Depreciation charges during 1977	9.9	6	26.6	1	138.7	2
Buildings and other structures	(1.2)	16	3.8	2	20.3	2
Machinery and equipment	8.7	8	22.8	1	118.4	2

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3671, ELECTRON TUBES, ALL TYPES												
Total	-	**146**	**36.7**	**514.1**	**27.5**	**53.7**	**324.5**	**909.6**	**883.7**	**1 581.7**	**51.2**	**254.7**
Establishments with an average of—												
1 to 4 employees	E9	50	0.1	0.9	0.1	0.1	0.6	1.4	1.7	3.5	0.1	0.4
5 to 9 employees	E8	23	0.2	2.0	0.1	0.3	1.4	3.5	3.2	6.7	0.2	0.9
10 to 19 employees	E6	13	0.2	2.3	0.1	0.3	1.5	4.2	2.3	6.3	0.4	1.1
20 to 49 employees	-	11	0.3	3.7	0.3	0.5	2.3	7.4	4.6	11.9	0.3	1.4
50 to 99 employees	E2	7	0.5	6.9	0.4	0.6	3.9	13.9	8.7	22.0	0.8	4.0
100 to 249 employees	-	10	1.8	20.2	1.3	2.5	11.9	52.1	30.1	82.8	2.1	10.5
250 to 499 employees	-	10	3.4	40.7	2.5	4.8	24.8	76.3	59.5	134.1	4.8	35.1
500 to 999 employees	-	12	8.1	106.5	6.2	12.4	72.4	208.8	132.7	339.1	8.0	55.7
1,000 to 2,499 employees	-	6	9.3	134.2	7.7	14.1	94.4	246.4	197.1	439.6	20.9	50.9
2,500 employees or more	-	4	12.9	196.5	8.8	18.2	111.3	295.5	244.0	535.7	13.7	94.8
Covered by administrative records[2]	E0	67	0.3	3.6	0.2	0.4	2.3	6.5	5.6	12.1	0.4	1.7
INDUSTRY 3674, SEMICONDUCTORS AND RELATED DEVICES												
Total	-	**545**	**114.0**	**1 601.1**	**63.5**	**126.5**	**670.3**	**3 409.6**	**2 011.2**	**5 322.6**	**409.0**	**909.5**
Establishments with an average of—												
1 to 4 employees	E7	191	0.3	3.9	0.2	0.4	1.7	(S)	4.3	12.6	1.2	2.3
5 to 9 employees	E7	75	0.5	6.5	0.3	0.6	2.7	13.2	6.7	20.0	1.6	3.7
10 to 19 employees	E7	60	0.8	10.9	0.5	1.0	4.5	23.1	12.7	35.7	2.7	6.2
20 to 49 employees	E2	48	1.6	18.7	1.0	2.0	8.6	39.0	25.2	63.3	6.6	10.6
50 to 99 employees	E1	40	3.0	32.2	2.1	4.0	18.1	74.1	33.8	104.7	6.1	21.5
100 to 249 employees	-	59	9.3	103.4	6.4	12.6	55.4	212.2	147.0	360.9	31.5	64.8
250 to 499 employees	-	31	10.8	136.7	6.8	13.8	68.3	309.4	188.0	499.1	30.8	87.5
500 to 999 employees	-	19	13.0	154.5	9.0	17.4	85.9	304.4	220.8	529.5	34.0	100.6
1,000 to 2,499 employees	-	10	14.8	194.4	8.8	16.9	78.5	467.0	141.7	598.6	35.4	74.7
2,500 employees or more	-	12	59.9	939.8	28.5	57.9	346.6	1 968.4	1 231.0	3 098.2	259.0	537.8
Covered by administrative records[2]	E0	231	1.4	17.9	0.8	1.6	7.4	39.0	20.1	59.0	5.0	10.9
INDUSTRY 3675, ELECTRONIC CAPACITORS												
Total	-	**118**	**28.9**	**250.5**	**23.4**	**45.7**	**179.0**	**486.1**	**266.2**	**742.3**	**34.0**	**152.4**
Establishments with an average of—												
1 to 4 employees	E8	7	(Z)	0.1	(Z)	(Z)	0.1	(S)	0.1	0.2	(Z)	(Z)
5 to 9 employees	E0	3	(Z)	0.2	(Z)	(Z)	0.1	0.2	0.2	0.4	(Z)	0.1
10 to 19 employees	E5	11	0.2	1.3	0.1	0.2	0.9	2.2	1.4	3.6	0.1	0.6
20 to 49 employees	E1	20	0.6	5.4	0.5	0.9	3.3	9.7	8.2	17.6	0.4	4.7
50 to 99 employees	-	11	0.7	7.0	0.6	1.1	4.2	14.3	6.3	20.6	1.1	3.4
100 to 249 employees	-	32	5.1	45.2	4.0	7.7	29.1	93.7	44.0	133.9	4.1	26.9
250 to 499 employees	-	15	5.7	48.4	4.8	8.9	36.1	96.4	44.1	139.0	4.4	29.5
500 to 999 employees	-	16	11.0	97.5	9.2	18.1	71.6	191.7	109.5	294.6	14.0	59.4
1,000 to 2,499 employees	-	2	(5.4)	(55.5)	(4.1)	(8.7)	(33.8)	(79.7)	(52.6)	(132.3)	(9.9)	(27.7)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	15	0.1	1.1	0.1	0.2	0.8	1.8	1.1	2.9	0.1	0.6
INDUSTRY 3676, ELECTRONIC RESISTORS												
Total	-	**101**	**21.3**	**210.9**	**15.9**	**32.4**	**130.6**	**401.0**	**186.2**	**578.3**	**25.1**	**104.2**
Establishments with an average of—												
1 to 4 employees	E9	9	(Z)	0.1	(Z)	(Z)	0.1	(S)	0.1	0.3	(0.6)	0.1
5 to 9 employees	E2	6	(Z)	(0.5)	(Z)	(0.1)	(0.3)	(1.3)	(0.8)	(2.0)	(D)	(0.3)
10 to 19 employees	E4	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	17	0.5	4.7	0.4	0.8	3.0	9.6	5.6	15.0	0.2	2.6
50 to 99 employees	-	16	1.2	10.0	1.0	2.0	6.7	21.2	11.6	31.6	1.2	6.1
100 to 249 employees	-	18	2.6	22.9	2.1	4.1	15.2	41.9	26.7	67.7	2.1	13.4
250 to 499 employees	-	15	4.9	48.4	3.6	7.1	30.1	103.5	47.6	147.7	21.0	28.5
500 to 999 employees	-	11	(11.9)	(123.5)	(8.6)	(18.3)	(74.6)	(222.2)	(92.9)	(311.2)	(D)	(52.7)
1,000 to 2,499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	11	0.1	1.0	0.1	0.2	0.6	1.8	0.9	2.7	0.1	0.5
INDUSTRY 3677, ELECTRONIC COILS AND TRANSFORMERS												
Total	-	**294**	**20.7**	**166.6**	**17.1**	**31.8**	**113.1**	**289.1**	**221.0**	**506.4**	**9.5**	**74.5**
Establishments with an average of—												
1 to 4 employees	E9	33	0.1	0.6	0.1	0.1	0.4	1.0	0.8	1.9	(Z)	0.3
5 to 9 employees	E8	23	0.1	1.2	0.1	0.2	0.8	2.1	1.7	3.9	0.1	0.7
10 to 19 employees	E5	44	0.6	5.1	0.5	1.0	3.5	8.2	6.5	14.7	0.3	2.6
20 to 49 employees	E1	69	2.2	19.1	1.8	3.4	11.9	31.9	21.6	53.3	1.2	6.6
50 to 99 employees	E1	67	4.9	37.7	4.0	7.3	24.9	71.0	49.5	120.2	1.4	15.4
100 to 249 employees	-	44	6.6	51.1	5.4	10.1	35.1	87.8	64.1	153.6	2.9	23.2
250 to 499 employees	-	10	3.2	26.6	2.6	4.8	17.3	41.5	25.3	64.9	1.1	11.6
500 to 999 employees	-	3	(3.0)	(25.2)	(2.6)	(4.9)	(19.2)	(45.4)	(51.4)	(94.0)	(2.6)	(14.3)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	82	0.7	5.9	0.6	1.1	3.8	9.6	7.8	17.4	0.3	3.1

See footnotes at end of table.

Table 4. **Industry Statistics by Employment Size of Establishment: 1977**—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3678, ELECTRONIC CONNECTORS												
Total	-	**133**	**26.0**	**303.6**	**19.1**	**37.6**	**185.1**	**754.2**	**371.7**	**1 104.6**	**40.4**	**234.5**
Establishments with an average of—												
1 to 4 employees	E3	12	(Z)	0.2	(Z)	(Z)	0.1	0.4	0.3	0.9	(Z)	0.2
5 to 9 employees	E9	5	(Z)	0.3	(Z)	(Z)	0.2	0.7	0.3	1.1	(1.7)	0.2
10 to 19 employees	E2	9	(0.1)	(2.0)	(0.1)	(0.2)	(1.1)	(6.1)	(3.0)	(8.5)	(D)	(1.9)
20 to 49 employees	-	27	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees	E1	22	1.5	15.7	1.1	2.2	10.2	45.5	20.1	63.3	1.1	11.0
100 to 249 employees	-	27	4.4	48.2	3.3	6.7	30.6	147.7	70.8	215.6	6.0	37.8
250 to 499 employees	-	19	6.7	74.6	5.2	10.0	46.3	229.4	113.0	336.4	8.7	61.9
500 to 999 employees	-	9	6.1	76.1	4.5	8.8	47.6	158.9	98.6	255.8	(22.8)	57.8
1,000 to 2,499 employees	-	2	(6.2)	(76.4)	(4.1)	(8.1)	(43.1)	(142.5)	(49.4)	(184.2)	(D)	(57.4)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	12	0.1	0.9	0.1	0.1	0.5	2.1	1.0	3.1	0.1	0.7
INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.												
Total	E1	**3 119**	**126.0**	**1 500.1**	**91.4**	**181.0**	**855.0**	**3 000.1**	**2 658.0**	**5 551.0**	**212.3**	**1 043.9**
Establishments with an average of—												
1 to 4 employees	E8	1 294	1.9	22.9	1.7	2.7	13.0	46.3	38.8	84.9	4.0	15.1
5 to 9 employees	E8	477	3.2	36.6	2.2	4.5	20.8	69.4	57.6	126.7	5.7	22.5
10 to 19 employees	E7	433	5.9	67.2	4.2	8.4	38.1	125.2	99.7	224.7	8.9	40.5
20 to 49 employees	E2	406	13.3	146.6	9.9	19.5	86.7	269.9	197.5	463.3	19.4	74.9
50 to 99 employees	-	243	17.0	175.7	12.9	25.0	105.2	345.1	223.6	561.7	24.6	89.0
100 to 249 employees	-	177	27.4	283.0	20.9	40.9	173.2	585.4	368.4	944.8	32.9	177.7
250 to 499 employees	-	62	21.7	231.6	16.0	31.7	131.8	508.1	296.6	785.7	35.3	163.6
500 to 999 employees	-	17	11.2	129.9	7.9	15.8	77.3	260.9	247.2	506.7	20.4	85.1
1,000 to 2,499 employees	-	8	(24.4)	(406.6)	(15.6)	(32.5)	(208.8)	(789.8)	(1 128.7)	(1 852.5)	(61.2)	(375.5)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	1 691	8.9	104.0	6.5	12.5	58.8	193.7	163.9	357.6	14.6	65.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3671	**Electron tubes, all types:**										
	Entire industry	146	36.7	514.1	27.5	53.7	324.5	909.6	683.7	1 581.7	51.2
	Establishments with 75 percent specialization or more	124	20.8	267.8	16.3	31.6	181.2	522.5	504.2	1 020.1	25.6
3674	**Semiconductors and related devices:**										
	Entire industry	545	114.0	1 601.1	63.5	126.5	670.3	3 409.6	2 011.2	5 322.6	409.0
	Establishments with 75 percent specialization or more	503	102.8	1 454.3	55.6	111.0	581.0	3 059.9	1 770.1	4 739.7	372.5
36741	Integrated microcircuits, semiconductor networks:										
	Establishments with this product class primary	80	68.2	1 043.8	34.8	71.4	394.0	2 285.4	1 313.3	3 503.3	313.9
	Establishments with 75 percent specialization or more in class	67	39.7	569.1	19.5	39.6	182.9	1 339.8	724.6	2 027.8	172.5
36742	Transistors:										
	Establishments with this product class primary	19	14.3	170.0	7.7	14.2	73.8	282.7	150.1	427.7	21.2
	Establishments with 75 percent specialization or more in class	11	1.4	16.1	1.0	1.9	8.4	35.6	17.2	52.2	1.8
36743	Diodes and rectifiers, excluding light emitting:										
	Establishments with this product class primary	30	8.0	93.0	5.6	11.2	53.6	191.0	98.0	291.5	13.0
	Establishments with 75 percent specialization or more in class	23	6.1	66.4	4.3	8.6	38.4	139.7	67.7	207.8	11.0
36749	Semiconductor devices, n.e.c., and parts:										
	Establishments with this product class primary	69	20.1	253.4	13.2	25.7	130.7	568.4	402.0	963.1	49.2
	Establishments with 75 percent specialization or more in class	54	13.2	160.4	8.4	16.7	73.7	365.4	301.0	663.6	27.7
3675	**Electronic capacitors:**										
	Entire industry	118	28.9	260.5	23.4	45.7	179.0	486.1	266.2	742.3	34.0
	Establishments with 75 percent specialization or more	108	25.6	227.5	21.2	41.3	162.0	446.1	240.8	675.7	31.7
3676	**Electronic resistors:**										
	Entire industry	101	21.3	210.9	15.9	32.4	130.6	401.0	186.2	578.3	25.1
	Establishments with 75 percent specialization or more	86	17.6	172.9	13.0	25.9	106.3	332.6	146.3	471.1	19.6
3677	**Electronic coils and transformers:**										
	Entire industry	294	20.7	166.6	17.1	31.8	113.1	289.1	221.0	506.4	9.5
	Establishments with 75 percent specialization or more	276	17.3	139.7	14.3	26.7	93.9	245.7	184.7	425.4	7.6
3678	**Electronic connectors:**										
	Entire industry	133	26.0	303.6	19.1	37.6	185.1	754.2	371.7	1 104.6	40.4
	Establishments with 75 percent specialization or more	106	16.9	190.2	12.6	24.8	118.2	465.0	227.4	678.7	28.4
3679	**Electronic components, n.e.c.:**										
	Entire industry	3 119	126.0	1 500.1	91.4	181.0	855.0	3 000.1	2 658.0	5 551.0	212.3
	Establishments with 75 percent specialization or more	2 964	94.0	1 023.3	70.3	139.7	614.9	2 039.4	1 381.0	3 371.8	144.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3671	Electron tubes, all types[1]....1977..	1,581.7	1,174.5	331.6	75.6	78	1,257.4	1,174.5	82.9	93
	1972..	1,406.2	1,158.0	180.6	67.6	87	1,189.4	1,158.0	31.4	97
	1967..	1,502.3	1,343.0	80.9	78.4	94	1,380.3	1,343.0	37.3	97
3674	Semiconductors and related devices....1977..	5,322.6	4,262.0	327.7	732.9	93	4,532.3	4,262.0	270.3	94
	1972..	2,704.8	2,163.3	261.3	244.4	89	2,360.8	2,163.3	197.5	92
	1967..	1,141.0	1,014.8	87.6	38.6	92	1,162.0	1,014.8	147.2	87
3675	Electronic capacitors....1977..	742.3	673.1	60.9	8.3	92	736.1	673.1	63.0	91
	1972..	445.8	396.1	42.5	7.2	90	454.4	396.1	58.3	87
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
3676	Electronic resistors....1977..	578.3	471.9	70.3	36.1	87	583.0	471.9	111.1	81
	1972..	372.2	323.6	36.0	12.6	90	438.1	323.6	114.5	74
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
3677	Electronic coils and transformers....1977..	506.4	451.6	47.0	7.8	91	605.8	451.6	154.2	75
	1972..	354.1	303.2	46.9	2.8	87	385.3	303.8	81.5	79
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
3678	Electronic connectors....1977..	1,104.6	844.1	242.0	18.5	78	986.4	844.1	142.3	86
	1972..	483.3	422.2	52.8	8.3	89	523.6	422.2	101.4	81
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
3679	Electronic components, n.e.c....1977..	5,551.0	4,126.8	1,072.3	351.9	79	5,574.1	4,126.8	1,447.3	74
	1972..	3,059.9	2,326.8	617.3	115.8	79	3,209.8	2,326.8	883.0	73
	1967..	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

n.e.c. Not elsewhere classified.

[1]For 1977, data for industries 3671, 3672, and 3673 were combined to avoid disclosing operations of individual companies. Data for 1972 and 1967 are also shown on a combined basis but include some estimation in determining primary versus secondary products.

[2]Industries 3675, 3676, 3677, and 3678 were established as separate industries in 1972. Industry 3679 was redefined in 1972. Data for 1967 are not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Electron tubes, all types (SIC 3671)	Semiconductors and related devices (SIC 3674)	Electronic capacitors (SIC 3675)	Electronic resistors (SIC 3676)	Electronic coils and transformers (SIC 3677)	Electronic connectors (SIC 3678)	Electronic components, n.e.c. (SIC 3679)	Other industries
	Total	(X)	1,581.7	5,322.6	742.3	578.3	506.4	1,104.6	5,551.0	(X)
	Primary products	(X)	1,174.5	4,262.0	673.1	471.9	451.6	844.1	4,126.8	(X)
	Secondary products	(X)	331.6	327.7	60.9	70.3	47.0	242.0	1,072.3	(X)
	Miscellaneous receipts	(X)	75.6	732.9	8.3	36.1	7.8	18.5	351.9	(X)
3671-	Electron tubes, all types	1,257.4	1,174.5	(D)	-	-	-	-	37.8	(D)
36711	Receiving tubes, except cathode ray	104.0	101.0	-	-	-	-	-	(D)	(D)
36712	Cathode ray picture tubes	603.5	593.3	-	-	-	-	-	(D)	(D)
36713	Transmitting and special purpose tubes	544.6	474.8	(D)	-	-	-	-	(D)	(D)
36710	Electron tubes, n.s.k	5.3	5.3	-	-	-	-	-	-	-
3674-	Semiconductors and related devices	4,532.3	37.2	4,262.0	20.1	21.3	(D)	(D)	77.1	111.6
36741	Integrated microcircuits (semiconductor networks)	2,697.1	(D)	2,585.9	(D)	(D)	-	(D)	(D)	54.9
36742	Transistors	462.6	(D)	417.7	(D)	-	-	-	(D)	(D)
36743	Diodes and rectifiers, except light emitting	414.9	(D)	379.4	(D)	-	-	-	(D)	(D)
36749	Semiconductor devices and parts for all devices	835.8	26.3	757.8	(D)	(D)	(D)	(D)	(D)	36.1
36740	Semiconductors and related devices, n.s.k	122.0	-	121.2	-	-	-	.3	(Z)	.5
36750	Capacitors for electronic applications	736.1	-	(D)	673.1	(D)	(D)	(D)	3.6	42.8
36760	Resistors for electronic applications	583.0	-	(D)	(D)	471.9	(D)	(D)	23.6	74.3
36770	Coils, transformers, reactors, and chokes	605.8	11.0	(D)	(D)	1.0	451.6	(D)	23.4	111.6
36780	Connectors for electronic applications	986.4	-	(D)	(D)	-	(D)	844.1	38.2	98.7
36790	Electronic components and subassemblies, n.e.c	5,574.1	82.2	68.6	14.8	26.1	27.7	50.5	4,126.8	1,177.2
	Other shipments by 4-digit product group:									
2641-	Coated and glazed paper	(X)	-	-	-	-	-	-	(D)	(X)
2893-	Printing ink	(X)	-	(D)	-	-	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	-	(D)	-	-	(D)	(D)	10.7	(X)
3264-	Porcelain electrical supplies	(X)	-	(D)	(D)	(D)	-	-	(D)	(X)
3316-	Cold finishing of steel shapes	(X)	-	-	-	-	-	-	(D)	(X)
3351-	Copper rolling and drawing	(X)	-	(D)	-	-	-	-	-	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	-	-	-	(D)	(D)	-	(X)
3423-	Hand and edge tools, n.e.c	(X)	-	(D)	-	-	-	-	-	(X)
3451-	Screw machine products	(X)	-	(D)	-	(D)	-	(D)	-	(X)
3469-	Metal stampings, n.e.c	(X)	-	(D)	-	-	-	(D)	(D)	(X)
3471-	Plating and polishing	(X)	-	-	-	-	-	-	(D)	(X)
3519-	Internal combustion engines, n.e.c	(X)	-	-	-	-	-	(D)	-	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	-	-	-	-	-	(D)	(D)	(X)
3559-	Special industry machinery, n.e.c	(X)	-	(D)	(D)	-	-	-	(D)	(X)
3563-	Air and gas compressors	(X)	(D)	-	-	-	-	-	-	(X)
3567-	Industrial furnaces and ovens	(X)	-	-	-	-	-	-	(D)	(X)
3573-	Electronic computing equipment	(X)	-	(D)	-	-	(D)	-	(D)	(X)
3579-, 3572-	Office machines, n.e.c. and typewriters	(X)	-	-	-	-	-	-	(D)	(X) (X)
3599-	Machinery, except electrical, n.e.c	(X)	-	(D)	-	-	(D)	-	.7	(X)
3613-	Switchgear and switchboard apparatus	(X)	-	(D)	-	(D)	-	(D)	(D)	(X)
3621-	Motors and generators	(X)	-	-	-	-	-	(D)	16.3	(X)
3622-	Industrial controls	(X)	-	(D)	-	(D)	1.1	(D)	(D)	(X)
3629-	Electrical industrial apparatus, n.e.c	(X)	-	-	18.0	-	(D)	-	(D)	(X)
3641-	Electric lamp bulbs	(X)	-	-	-	-	-	-	(D)	(X)
3643-	Current-carrying wiring devices	(X)	(D)	(D)	·	(D)	(D)	(D)	(D)	(X)
3644-	Noncurrent-carrying wiring devices	(X)	-	-	-	(D)	-	(D)	-	(X)
3648-	Lighting equipment, n.e.c	(X)	(D)	(D)	-	-	-	-	(D)	(X)
3651-	Radio and TV receiving sets	(X)	-	-	-	(D)	-	-	(D)	(X)
3661-	Telephone and telegraph apparatus	(X)	-	-	-	-	-	(D)	(D)	(X)
3662-	Radio and TV communication equipment	(X)	96.9	(D)	(D)	(D)	(D)	(D)	(D)	(X)
3693-	X-ray and electromedical apparatus	(X)	(D)	-	-	-	-	-	(D)	(X)
3694-	Engine electrical equipment	(X)	-	(D)	(D)	(D)	(D)	(D)	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	-	(D)	-	(D)	-	(D)	(D)	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	-	-	-	(D)	-	(X)
3822-	Environmental controls	(X)	-	(D)	-	(D)	-	-	(D)	(X)
3823-	Process control instruments	(X)	-	-	-	(D)	-	-	(D)	(X)
3825-	Instruments to measure electricity	(X)	(D)	(D)	-	(D)	(D)	(D)	(D)	(X)
3829-	Measuring and controlling devices, n.e.c	(X)	(D)	(D)	(D)	-	-	-	2.5	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Electron tubes, all types (SIC 3671)	Semiconductors and related devices (SIC 3674)	Electronic capacitors (SIC 3675)	Electronic resistors (SIC 3676)	Electronic coils and transformers (SIC 3677)	Electronic connectors (SIC 3678)	Electronic components, n.e.c. (SIC 3679)	Other industries
	Other shipments by 4-digit product group--Con.									
3832-	Optical instruments and lenses	(X)	(D)	-	-	-	-	-	(D)	(X)
3842-	Surgical appliances and supplies	(X)	-	-	-	-	-	-	(D)	(X)
3873-	Watches, clocks, and watchcases	(X)	-	(D)	-	-	-	-	(D)	(X)
3944-	Games, toys, and children's vehicles	(X)	-	-	-	-	-	-	(D)	(X)
3961-	Costume jewelry	(X)	-	-	-	-	-	-	(D)	(X)
3999-	Manufacturing industries, n.e.c	(X)	-	(D)	-	-	-	-	(D)	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	9.5	12.2	-	(D)	(D)	(D)	28.8	(X)
99980 13	Sales of scrap and refuse	(X)	.6	15.1	3.1	1.7	(Z)	12.5	7.8	(X)
99980 31	Installation of products manufactured	(X)	-	-	-	(D)	(D)	(D)	(Z)	(X)
99980 41	Research and development	(X)	20.6	5.6	-	(D)	(D)	-	26.7	(X)
99980 61	Repair work	(X)	(D)	(Z)	(Z)	(D)	(D)	(D)	2.3	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	28.4	(Z)	(D)	(D)	3.4	51.7	(X)
99989 00	Resales	(X)	27.7	670.8	5.0	29.6	5.2	2.3	242.4	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3671-	3662 Radio and TV communication equipment	21.9
	3693 X-ray and electromedical apparatus	(D)
3674-	3079 Miscellaneous plastics products	(D)
	3622 Industrial controls	(D)
	3651 Radio and TV receiving sets	(D)
	3661 Telephone and telegraph apparatus	(D)
	3662 Radio and TV communication equipment	41.8
	3843 Dental equipment and supplies	(D)
3675-	3629 Electrical industrial apparatus, n.e.c	17.8
	3661 Telephone and telegraph apparatus	(D)
3676-	3622 Industrial controls	(D)
3677-	2519 Household furniture, n.e.c	(D)
	3429 Hardware, n.e.c	(D)
	3612 Transformers	(D)
	3661 Telephone and telegraph apparatus	(D)
	3662 Radio and TV communication equipment	13.9
	3811 Engineering and scientific instruments	(D)
678-	3357 Nonferrous wire drawing and insulating	5.0
	3573 Electronic computing equipment	(D)
	3643 Current-carrying wiring devices	25.9
	3662 Radio and TV communication equipment	(D)
	3822 Environmental controls	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3679-	2519 Household furniture, n.e.c	(D)
	2641 Coated and glazed paper	(D)
	2645 Die-cut paper and board	(D)
	2865 Cyclic crudes and intermediates	(D)
	3356 Nonferrous rolling and drawing, n.e.c	(D)
	3573 Electronic computing equipment	(D)
	3579, 3572 Office machines, n.e.c. and typewriters	(D)
	3586 Measuring and dispensing pumps	(D)
	3612 Transformers	(D)
	3622 Industrial controls	5.9
	3641 Electric lamp bulbs	(D)
	3643 Current-carrying wiring devices	19.6
	3651 Radio and TV receiving sets	(D)
	3661 Telephone and telegraph apparatus	(D)
	3662 Radio and TV communication equipment	201.3
	3811 Engineering and scientific instruments	(D)
	3823 Process control instruments	9.4
	3825 Instruments to measure electricity	(D)
	3829 Measuring and controlling devices, n.e.c	9.5
	3832 Optical instruments and lenses	(D)
	3843 Dental equipment and supplies	(D)
	3861 Photographic equipment and supplies	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
				Product shipments		Product shipments	
			Number of companies	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	ELECTRON TUBES, ALL TYPES[1]						
3671- --	Total	.....	(NA)	(X)	1,257.4	(X)	1,189.4
36711 --	Receiving tubes, except cathode ray:						
	As reported in the census of manufactures	.....	11	(X)	104.0	(X)	189.6
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	Millions.....	6	60.9	104.6	162.2	182.0
36711 50	Receiving type electron tubes, all types	Millions.....	6	60.9	104.6	162.2	182.0
36712 --	Cathode ray picture tubes:						
	As reported in the census of manufactures	.....	23	(X)	603.5	(X)	633.6
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	(NA)	10.1	592.3	(X)	568.9
	Television tubes, including any defective tube that has been repaired or rebuilt:						
36712 17	Black and white, new	Millions.....	2	(2)	(2)	3.3	45.2
36712 18	Black and white, rebuilt		18				
	Color, new:						
36712 21	17 inch and under		4	1.0	57.7	7.6	523.8
36712 23	18 inch and 19 inch		5	3.1	189.6		
36712 25	20 inch and over		5	3.6	266.6		
36712 20	Color, rebuilt	Millions.....	25	2.4	78.4		
36713 --	Transmitting and special purpose tubes:						
	As reported in the census of manufactures	.....	43	(X)	544.6	(X)	366.2
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	(NA)	(X)	541.1	(X)	368.1
	Power and special tubes:						
	High vacuum tubes:						
36713 12	Triodes and multi-grid anodes	Thousands.....	9	1,277.5	53.8	4,855.0	75.5
36713 17	Other, including diodes, triodes, and multi-grid internal anodes		9	884.8	20.9		
	Gas and vapor tubes:						
36713 23	Thyratrons, including hydrogen		8	367.9	16.6	3,973.2	32.3
36713 26	Other		7	8,103.1	17.1		
	Klystrons:						
36713 31	Amplifier		7	(NA)	48.1	122.3	44.3
36713 36	Reflex		5				
36713 41	Other		-	-	-	-	-
	Magnetrons:						
36713 45	Pulsed, fixed, and tunable		9	54.1	39.1	168.3	35.5
36713 50	Other, including cross-field and CW		4	138.2	13.8		
	Traveling wave tubes:						
	Forward wave:						
	Continuous wave (CW):						
36713 55	Up to and including 10 watts CW power output rating		4	5.7	8.7	22.9	68.6
36713 61	Over 10 watts CW power output rating		7	11.9	36.4		
	Pulsed power:						
36713 64	Up to and including 10 kW peak power output rating		5	(S)	29.6		
36713 67	Over 10 kW peak power output rating		4	2.8	11.3		
36713 92	Backward wave		3	2.4	4.3	9.0	16.6
	Light sensing tubes:						
36713 70	Camera tubes, photoemissive and photoconductive		8	(S)	36.0	(X)	33.3
36713 73	Image intensifiers and converters		5	49.8	30.0		
36713 76	Photomultipliers and other		7	310.7	21.2		
	Light emitting devices:						
	Storage tubes:						
36713 79	Electrical readout, all sizes		4	8.9	8.8	(X)	51.0
36713 82	Direct view, all sizes		5	7.1	10.2		
36713 85	Cathode-ray tubes (CRT's) industrial and military		13	733.0	60.7		
	Special display devices, including alphanumeric readout tubes:						
36713 88	Figure indicating tubes		2	(X)	74.5	(X)	11.0
36713 91	Other	Thousands.....	1				
36713 96	Miscellaneous special purpose tubes	.....	12				
36710 00	Electron tubes, n.s.k., typically for establishments with more than 10 employees	.....	(NA)	(X)	5.3	(X)	-
36710 02	Electron tubes, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	-	(X)	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments Quantity	1977 Product shipments Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	SEMICONDUCTORS AND RELATED DEVICES						
3674- --	Total	.....	(NA)	(X)	4,532.3	(X)	2,360.8
36741 --	Integrated microcircuits (semiconductor networks):						
	As reported in census of manufactures	.....	108	(X)	2,697.1	(X)	1,267.8
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	101	(X)	2,676.8	(X)	1,138.0
36741 10	Hybrid integrated circuits, thick film; composed of material deposited by silk screen process on a passive substrate combined with discrete active or passive components	.....	46	(X)	179.0		
36741 11	Hybrid integrated circuits, thin film; composed of material deposited by vacuum deposition, sputtering, or similar process on a passive substrate combined with discrete active or passive components	.....	24	(X)	136.4	(X)	237.0
36741 12	Hybrid integrated circuits, multichip; circuits not incorporating film techniques. These are usually combinations of chips, active and/or passive. Discrete package devices may be used for some, but not all of the circuits	.....	16	(X)	31.2		
	Monolithic digital integrated circuits:						
	Bipolar:						
36741 15	DTL (diode transistor logic), excluding microprocessors	.....	10	(X)	33.7		
36741 16	TTL (transistor transistor logic), excluding microprocessors	.....	18	(X)	397.7		
36741 17	CML/ECL (current mode logic/emitter coupled logic), excluding microprocessors	.....	7	(X)	85.2		
36741 22	I^2L (integrated injector logic), excluding microprocessors	.....	4	(X)	24.8		
36741 24	Microprocessors	.....	6			(X)	757.5
36741 26	Other bipolar digital integrated circuits, including diode logic, complementary transistor logic, resistor transistor logic, direct couple transistor logic, etc.	.....	10	(X)	248.5		
	Metal oxide silicon (MOS):						
36741 28	Microprocessors	.....	16	(X)	168.7		
36741 30	MOS memories	.....	21	(X)	759.0		
36741 32	Other MOS devices	.....	19	(X)	270.0		
36741 36	Monolithic analog integrated circuits	.....	22	(X)	342.6	(X)	143.5
36742 --	Transistors:						
	As reported in census of manufactures	.....	48	(X)	462.6	(X)	413.6
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	37	(X)	456.1	(X)	410.2
36742 63	Signal (less than 1 watt dissipation)	.....	23	(X)	213.5	(X)	410.2
36742 64	Power (1 watt or more dissipation)	.....	23	(X)	242.6		
36743 --	Diodes and rectifiers:						
	As reported in census of manufactures	.....	61	(X)	414.9	(X)	300.8
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	41	(X)	402.5	(X)	317.5
36743 22	Signal diodes and assemblies thereof (maximum current 0.5 amps)	Millions	13	1,415.4	68.9		
36743 42	Semiconductor rectifier/power diodes and assemblies thereof (current rating greater than 0.5 amps)		28	778.2	186.0	(X)	272.2
36743 12	Selenium rectifiers		7	5.1	5.1		
36743 83	Microwave diodes (mixers, detectors, varactors, parametric, harmonic generators, etc.)		17	70.1	44.8		
36743 94	Zener diodes (voltage regulator and voltage reference diodes)[3]	Millions	23	551.8	97.7	141.1	45.3
36749 --	Semiconductor devices, n.e.c., and parts for semiconductors:						
	As reported in census of manufactures	.....	112	(X)	835.8	(X)	337.2
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	118	(X)	827.7	(X)	269.9
	Light sensitive and light emitting devices:						
36749 92	Solar cells	.....	7	(X)	11.6		
36749 82	Light emitting diodes (LED)	.....	8	(X)	82.3		
36749 93	Other	.....	22	(X)	42.8	(S)	215.2
	Other semiconductor devices:						
36749 85	Thyristors (SCR's, triacs, PNPN diodes)	.....	14	(X)	77.5		
36749 87	All other semiconductor devices	.....	15	(X)	74.4		

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
				Product shipments		Product shipments	
			Number of companies	Quantity	Value (million dollars)	Quantity	Value (million dollars)
3674- --	SEMICONDUCTORS AND RELATED DEVICES--Con.						
36749 --	Semiconductor devices, n.e.c., and parts for semiconductors--Con.						
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus--Con.						
	Semiconductor parts:						
36749 95	Semiconductor devices and circuits: chips (DICE) and wafers (DISCS)	.....	26	(X)	327.3	(X)	54.7
36749 97	All other semiconductor parts (headers, packages, heat sinks, other accessories, etc.)	.....	75	(X)	211.8		
36740 00	Semiconductor and related devices, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	63.0	(X)	32.9
36740 02	Semiconductor and related devices, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	59.0	(X)	8.5
	ELECTRONIC CAPACITORS						
3675- --	Total	.....	(NA)	(X)	736.1	(X)	454.4
	Capacitors for electronic applications:						
36750 --	As reported in census of manufactures	.....	110	(X)	733.2	(X)	454.4
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	90	(X)	744.8	(X)	460.9
	Paper dielectric:						
36750 13	Metal case	Millions	20	87.5	63.0		
36750 16	Nonmetal case		8	2.7	.8		
36750 23	Film dielectric, metal and nonmetal case		30	330.5	47.1	482.7	105.8
	Metalized dielectric:						
36750 35	Metal case		11	3.8	8.6		
36750 37	Nonmetal case		11	14.7	7.4		
36750 60	Dual dielectric, metal and nonmetal case		23	80.2	34.4		
	Tantalum electrolytic:						
	Slug and wire solid dry electrolytic:						
36750 62	Metal case, hermetic		6	202.4	56.2		
36750 65	Metal case, nonhermetic		7	46.7	8.8	456.8	110.9
36750 67	Nonmetal case		11	436.1	86.1		
36750 69	Foil and wet slug electrolytic		8	18.3	29.5		
	Aluminum electrolytic:						
	Metal case tubular:						
36750 73	Standard (5/8-inch diameter and up)		9	31.2	42.9		
36750 75	Subminiature (under 5/8-inch diameter)		9	115.7	24.2	184.4	71.4
36750 77	All others		8	39.4	47.6		
36750 78	Mica dielectric, fixed		9	629.1	34.2	286.2	32.0
	Ceramic dielectric:						
36750 80	Fixed tubular, disc, plate, stand-off tubular and disc, and all two-terminal ceramic devices		9	413.1	20.6		
	Monolithic:						
36750 81	Chips		19	363.9	30.9		
36750 83	Leaded-radial		22	539.4	106.4	2,193.3	104.7
36750 85	Leaded-axial		14	340.6	47.7		
36750 86	Other		5	314.0	20.9		
36750 87	All other fixed		8				
36750 89	Variable air dielectric, mica, ceramic, and glass dielectric	Millions	16	54.7	27.5	(X)	36.2
36750 02	Electronic capacitors, n.s.k., typically for establishments with less than 20 employees	.....	(NA)	(X)	2.9	-	-

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	ELECTRONIC RESISTORS						
3676- --	Total	.....	(NA)	(X)	583.0	(X)	438.1
36760 --	Resistors for electronic applications:						
	As reported in census of manufactures	.....	102	(X)	580.3	(X)	438.1
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	86	(X)	582.4	(X)	411.4
36760 11	Fixed, composition	Millions	12	4,233.6	83.2	3,492.2	67.0
36760 16	Fixed, deposited carbon	Millions	17	1,874.8	50.2	1,123.2	83.2
36760 17	Fixed, evaporated metal film and other metal alloys, metal oxide, metal/glass, or metal/ceramic element	Millions	32	1,246.0	103.9		
	Variable, nonwirewound:						
36760 23	Single turn, carbon and other film, nonprecision	Millions	9	181.0	66.2	285.2	105.5
36760 26	Single turn, precision and nonprecision	Millions	17	85.1	50.5		
	Trimmers (industrial and military grade):						
36760 30	Square and round	Millions	10	31.0	19.5		
36760 33	Rectangular	Millions	7	13.0	7.4		
	Fixed, wirebound:						
36760 37	Nonprecision (fixed and adjustable) over 1%	Millions	14	233.3	36.9	276.7	56.7
36760 40	Precision, unsealed	Millions	6	42.2	27.2		
36760 43	Precision, encapsulated and miniature, 3% or under	Millions	18				
	Variable, wirebound:						
36760 46	Nonprecision, single turn (wiper or shaft traverses 360° or less)	Millions	11	46.6	19.9	145.6	63.9
36760 50	Precision single turn, linear (0.5% linearity or less) and nonlinear (1% linearity or less)	Millions	17	.6	7.9		
36760 53	Trimmers (industrial and military grade)	Millions	9	6.0	13.9		
	Miscellaneous:						
36760 56	Varistors	Millions	7	125.1	18.4	165.7	35.1
36760 61	Thermistors, bead type, disc, rod, etc.	Millions	12	55.4	27.1		
36760 64	Multiturn, all types, wirewound and nonwirewound	Millions	12	2.7	21.2		
36760 66	Fixed resistor networks	Millions	15	82.0	29.0		
36760 02	Electronic resistors, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	2.7	-	-
	ELECTRONIC COILS AND TRANSFORMERS						
3677- --	Total	.....	(NA)	(X)	605.8	(X)	385.3
36770 --	Coils, transformers, reactors, and chokes for electronic applications:						
	As reported in the census of manufactures	.....	285	(X)	588.4	(X)	385.3
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	222	(X)	560.5	(X)	335.2
36770 32	Audio transformers	Millions	87	26.8	63.5	(X)	34.9
36770 33	Low frequency chokes	Millions	84	11.0	19.6	(X)	18.7
36770 41	Plate and filament transformers, including autotransformers, except toroidal	Millions	101	33.9	152.3	(X)	72.1
36770 61	Pulse transformers, computer, and other types	Millions	59	21.3	40.7	(X)	19.6
36770 12	Radio frequency (RF) chokes	Millions	37	94.1	19.7	(X)	11.0
36770 13	RF coils	Millions	34	(S)	37.6	(X)	59.7
36770 14	Intermediate frequency (IF) transformers	Millions	24	16.0	12.7		
36770 71	Television transformers and reactors (horizontal output, vertical deflection, focus coils, deflection yokes, etc.	Millions	21	18.5	81.4	(X)	83.5
36770 91	Toroidal windings (transformers and reactors), except complete magnetic amplifiers	Thousands	85	33.9	52.3	(X)	25.8
36770 92	Other (balum coils, permeability tuning devices, etc.)	.....	51	(X)	80.7	(X)	9.9
36770 02	Coil, transformers, reactors, and chokes for electronic application, n.s.k., typically for establishments with less than 20 employees	.....	(NA)	(X)	17.4	(X)	-

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	ELECTRONIC CONNECTORS						
3678- --	Total	.....	(NA)	(X)	986.0	(X)	523.6
36780 --	Connectors for electronic applications:						
	As reported in the census of manufactures	.....	151	(X)	982.9	(X)	523.6
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	96	(X)	985.8	(X)	482.0
	Connectors shipped complete:						
36780 21	Coaxial (radio frequency)	Mil. connector equivalents.	34	160.4	111.5	69.7	47.3
	Cylindrical:						
36780 25	Heavy duty and standard		15	17.9	54.7	33.5	115.3
36780 29	Minature		14	18.7	76.4		
36780 31	Subminiature		10	(S)	43.7		
	Rack and panel (rectangular):						
36780 35	Integral shell, Mil-C-22857 (8434) and similar types		18	250.7	72.5	167.0	113.0
36780 38	Subminiature, ribbon and blade contract		12	189.8	116.5		
36780 41	Hermetic sealed, except single contract or coaxial types.		25	4.7	34.4	(D)	(4)
	Printed circuit:						
36780 44	Card insertion types		20	(S)	109.1	434.4	110.1
36780 47	Two-piece type		16	1,012.2	73.2		
36780 51	Plate module types		10	(S)	27.1	(NA)	496.3
36780 52	Planar cable (flat conductor or ribbon cable)		11	(S)	63.9		
36780 54	Miscellaneous special purpose	Mil. connector equivalents.	47	(S)	183.5		
36780 56	Parts for connectors (connectors requiring further manufacture)	.....	10	(X)	19.3		
36780 02	Electronic connectors, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	3.1	-	-
	ELECTRONIC COMPONENTS, N.E.C.						
3679- --	Total	.....	(NA)	(X)	5,574.1	(X)	3,209.8
36790 --	Electronic components and subassemblies, n.e.c.:						
	As reported in census of manufactures	.....	1,264	(X)	5,216.5	(X)	3,148.8
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus	.....	711	(X)	5,329.2	(X)	2,749.9
	Filters, crystals, and related devices:						
	Filters, except microwave:						
36790 92	LC, RC, LCR, and passive electric wave filters	Thousands	37	1,104.0	28.2	1,052.2	15.6
36790 90	Mechanical, excluding optical lenses (germanium, silicon, fused quartz, rock salt, and other)		7	212.0	7.6	(X)	23.9
36790 94	Quartz and other piezoelectric filters		22	5,052.0	40.3		
36790 95	EMI, RFI suppression capacitors, including feed-thru, coaxial, and multi-terminal		10	(S)	20.0		
36790 96	EMI, RFI, LC filters		14	3,528.0	25.1		
	Crystals for frequency control:						
36790 97	Quartz		35	(S)	111.1	(X)	55.8
36790 98	Other crystals (ADP, rochelle salt, ruby, garnet, etc.)		6				
36790 28	Delay lines		22	(S)	12.4	(S)	19.1
36790 36	Oscillators, except laboratory types	Thousands	31	.7	45.8	(X)	(5)
	Magnetic recording media:						
36790 01	Audio range tape	1,000 sq. ft.	10	3,480.0	253.0	1,501.3	110.5
36790 02	Computer tape		10	1,313.0	167.8	899.0	88.6
36790 03	Instrumentation and video tape	1,000 sq. ft.	5	685.0	133.2	479.3	55.3
	Microwave components and devices, except antennae, tubes, and semiconductors:						
36790 70	Ferrite, including yttrium garnets	.....	25	(X)	36.5	(X)	11.4
	Microwave devices, other than ferrite and solid state:						
36790 66	Attenuators, dummy loads, high and low power terminations, etc	.....	39	(X)	24.1	(X)	10.8
36790 67	Cavities	.....	14	(X)	11.4	(X)	5.4
36790 68	Couplers (directional couplers, hybrid junctions, etc.)	.....	37	(X)	16.2	(X)	8.4
36790 71	Reactive microwave components, n.e.c	.....	31	(X)	17.4	(X)	9.1
36790 74	Switches, coaxial and waveguide	.....	25	(X)	13.7	(X)	7.2
36790 75	Rigid waveguides and fittings	.....	29	(X)	19.4	(X)	10.7
36790 77	Flexible waveguides and fittings	.....	6	(X)	8.2	(X)	4.7
36790 72	Other microwave components, except ferrite devices	.....	42	(X)	62.0	(X)	23.4
36790 51	Microwave subassemblies	.....	27	(X)	41.0	(X)	12.2
36790 52	Printed circuit boards, printed cables, and forms already etched, placed, etc., ready for component insertion	.....	206	(X)	799.6	(X)	184.3
36790 55	Rectifiers, electronic, except solid state	Millions	[illegible]	(X)	(6)	-	-

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
3679- --	ELECTRONIC COMPONENTS, N.E.C.--Con.						
36790 --	Electronic components and subassemblies, n.e.c.--Con.						
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus--Con.						
	Relays for electronic applications:						
	General purpose relays over 100 MW actuating power, including rotary plunger, or solenoid types, sealed and unsealed, except telephone:						
36790 80	Through 2.0 amperes contact rating	Millions	6	1.2	16.8		
36790 81	Through 10.0 amperes contact rating		6	(S)	6.5		
36790 82	Over 10.0 amperes contact rating		5				
36790 83	Sensitive relays through 100 MW actuating power, sealed and unsealed, except can types		4	3.1	14.9		
	Crystal can types, sealed:						
36790 84	Larger than full size		2				
36790 85	Full size		4	.3	4.1	(S)	40.6
36790 86	Half size		3				
36790 87	Smaller than half size		1	.2	1.6		
	Reed relays:						
36790 88	Dry		18	10.6	17.8		
36790 78	Mercury wetted		7	1.0	3.4		
36790 89	Other relays, n.e.c., including RF relays, hybrid, telephone, motor-driven pure solid-state, thermal, etc	Millions	22	(S)	109.0		
	Magnetic recording and reproducing heads:						
36790 91	Audio	Thousands	2				
36790 93	Video		1				
36790 99	Digital		1	(S)	19.0	(X)	(5)
36790 04	Instrumentation		1				
	Transducers, electrical/electronic input or output, n.e.c.:						
36790 10	Accoustical		19	(S)	38.7	(X)	7.4
	Mechanical:						
36790 14	Accelerometers		13	(S)	22.8	(X)	6.6
36790 15	Pressure		24	(S)	34.7	(X)	12.5
36790 16	Strain gauges and other mechanical		17	.1	29.5	(X)	10.9
36790 18	Thermal (pyrometers, thermo-couples, etc.)		7	(S)	6.1	(X)	9.1
36790 19	Other, optical (excluding those covered under crystal, etc.), chemical. magnetic, nuclear, etc	Thousands	16	(S)	19.0	(X)	16.4
36790 47	Phonograph needles and cutting styli	Millions	6	4.0	22.2	(X)	33.0
36790 31	Phonograph cartridges and pickups		4	4.7	41.7	(NA)	38.7
36790 29	Earphones and headsets, except telephone		39	(X)	94.6	2.1	26.0
36790 41	Home antennas		24	7.7	78.9	25.4	54.5
36790 42	Auto antennas		9	13.3	40.7	12.8	18.1
	Static power supply convertors for electronic applications, sold separately:						
36790 43	Regulated	Thousands	67	(S)	193.5	(X)	82.6
36790 44	Unregulated		24	(S)	8.3	(X)	7.4
36790 45	Variable frequency	Thousands	7	(S)	2.7		
36790 46	Other (a.c., d.c., convertors and inverters, klystron, vibrator, etc.)		29	(X)	28.8	(X)	8.1
	Switches, mechanical types for electronic circuitry:						
36790 05	Toggle, including miniature and subminiature		10	(X)	9.8		
36790 06	Slide, including rocker miniature and subminiature		15	(X)	34.5		
36790 07	Rotary selector, including lever and jog-lever, miniature and subminiature		15	(X)	30.6		
36790 08	Keyboard		5	(X)	3.1	(X)	77.9
36790 09	Push button		17	(X)	19.0		
36790 10	Snap action		6	(X)	4.1		
36790 11	Thumbwheel		10	(X)	2.8		
36790 12	Other switches, n.e.c		24	(X)	77.9		
	Complex components (two or more components packaged and shipped as a single unit), except filters:						
36790 21	Passive component packages or "modules" assembled from discrete components (RC networks, tone control packages, inter-stage coupling packages)		19	(X)	29.6	(X)	22.8

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
3679- --	ELECTRONIC COMPONENTS, N.E.C.--Con.						
36790 --	Electronic components and subassemblies, n.e.c.--Con.						
	As reported in Current Industrial Reports MA-36N, Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus--Con.						
	Complex components (two or more components packaged and shipped as a single unit), except filters-Con.						
36790 30	Active component packages or "modules" assembled from discrete, miniature components designed only for use in modules or assembled from conventional components	.....	69	(X)	1,107.3		
36790 29	Electronic cable harness assemblies	.....	39	(X)	94.6		
36790 24	Crygenic cooling devices, (crysostats, etc.) for infrared detectors, masers	.....	1	(X)	([6])		
	Ferrite devices other than microwave:						
36790 25	Hard ferrites for permanent magnets	.....	5	(X)	22.0		
36790 26	Soft ferrites for transformers, inductors, deflection yokes, and slugs for TV tuners and fractional hp motors.	.....	11	(X)	28.0	(X)	([5])
36790 27	Square-loop ferrites for memory cores for computers	.....	-	-	-		
36790 58	Liquid crystal displays and other liquid devices	.....	5	(X)	24.7		
36790 59	Magnetic bubble memories	.....	4	(X)	([6])		
36790 60	Magnetic cores	.....	15	(X)	64.3		
36790 79	Component assemblies of discrete active and/or passive components, not solid-state	.....	32	(X)	235.0		
36790 13	Electron tube parts, except glass blanks	.....	25	(X)	81.1	(X)	98.3
	Electronic parts, n.e.c., and specialized electronic hardware:						
	Sockets for electronic component insertion:						
36790 22	Tube sockets	.....	7				
36790 23	Relay sockets	.....	1	(X)	4.4		
36790 33	Discrete semiconductor sockets	.....	2				
36790 34	Integrated circuit sockets	.....	7	(X)	19.3		
36790 35	Other, including sockets for crystals and switches, etc.	.....	8	(X)	9.0	(X)	([5])
	Enclosures for electronic equipment:						
36790 37	Metal enclosures, assembled (welded, etc.)	.....	6				
36790 39	Metal enclosures, modular assembled, including card insertion, rack and panel, etc	.....	11	(X)	11.5		
36790 38	Other enclosures, n.e.c	.....	2				
36790 40	All other electronic parts, n.e.c., and specialized electronic hardware	.....	141	(X)	[6]687.3	(X)	[5]1,256.6
36790 02	Electronic components, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	357.6	(X)	61.0

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For 1977, including 3671, 3672, and 3673 were merged into industry 3671. Products previously published with codes 36710, 36720, and 36730 are shown here with codes 36711, 36712, and 36713, respectively.

[2]For 1977, data for products codes 36712 17, 36712 18, and 36712 20 were combined to avoid disclosing operations of individual companies.

[3]Reclassified from product code 36749 94 for 1972.

[4]Product codes 36780 41, 36780 51, 36780 54, and 36780 56 were originated since 1972.

[5]For 1972, product codes 36790 36, 36790 91, 36790 93, 36790 99, 36790 04, 36790 30, 36790 29, 36790 24, 36790 25, 36790 26, 36790 27, 36790 58, 36790 59, 36790 60, 36790 79, 36790 13, 36790 22, 36790 23, 36790 33, 36790 34, 36790 35, 36790 37, 36790 39, and 36790 38 were included with product code 36790 40.

[6]For 1977, product codes 36790 55, 36790 24, and 36790 59 were included with product code 36790 40.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36741, INTEGRATED MICROCIRCUITS (SEMICONDUCTOR NETWORKS)		
United States	2,697.1	1,267.8
New England Division:		
Massachusetts	52.4	21.4
Middle Atlantic Division:		
New Jersey	39.1	CC
Pennsylvania	177.4	7.4
East North Central Division:		
Indiana	12.3	AA
South Atlantic Division:		
Florida	88.4	FF
West South Central Division:		
Texas	450.7	GG
Pacific Division:		
California	937.3	GG
36742, TRANSISTORS		
United States	462.6	413.6
New England Division:		
Massachusetts	15.0	EE
Middle Atlantic Division:		
New York	6.0	17.6
Pacific Division:		
California	76.9	GG
36743, DIODES AND RECTIFIERS, EXCEPT LIGHT EMITTING		
United States	414.9	300.8
New England Division:		
Massachusetts	61.6	30.8
Middle Atlantic Division:		
New York	14.5	29.1
Pacific Division:		
California	110.3	GG
36749, SEMICONDUCTOR DEVICES AND PARTS FOR ALL DEVICES		
United States	835.8	337.2
New England Division:		
Massachusetts	34.2	37.4
Middle Atlantic Division:		
New York	167.5	34.7
New Jersey	5.3	1.9
Pennsylvania	124.4	68.1
East North Central Division:		
Ohio	14.0	(NA)
Mountain Division:		
Arizona	74.9	FF
Pacific Division:		
California	205.5	GG

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3671-	Electron tubes, all types	1,257.4	1,163.5	1,060.6	1,165.2	1,302.0	1,189.4	1,380.3	823.1
36711	Receiving tubes, except cathode ray	104.0	112.9	129.6	150.4	177.1	189.6	253.1	287.9
36712	Cathode ray picture tubes	603.5	604.9	514.0	599.8	697.0	633.6	765.6	248.5
36713	Transmitting and special purpose tubes	544.6	445.7	417.0	415.0	427.9	366.2	361.6	286.7
36710	Electron tubes, n.s.k.	5.3	-	-	-	-	-	-	-
3674-	Semiconductors and related devices	4,532.3	4,291.8	3,038.5	3,575.3	3,178.3	2,360.8	1,162.0	(NA)
36741	Integrated microcircuits (semiconductor networks)	2,697.1	2,597.9	1,717.8	2,055.5	1,708.7	1,267.8	247.5	(NA)
36742	Transistors	462.6	428.6	413.9	541.7	572.2	413.6	447.0	(NA)
36743	Diodes and rectifiers, except light emitting	414.9	435.4	404.7	499.1	344.2	300.8	287.5	(NA)
36749	Semiconductor devices and parts for all devices	835.8	825.1	474.2	460.6	512.8	337.2	176.0	(NA)
36740	Semiconductors and related devices, n.s.k.	122.0	(S)	(27.9)	(18.4)	40.4	41.4	4.0	(NA)
36750	Capacitors for electronic applications	736.1	654.7	535.1	685.9	618.9	454.4	430.7	318.8
36760	Resistors for electronic applications	583.0	481.0	466.3	518.2	557.4	438.1	442.4	312.6
36770	Coils, transformers, reactors, and chokes	605.8	538.7	488.5	527.6	460.9	385.3	446.5	274.4
36780	Connectors for electronic applications	986.0	838.3	839.2	793.4	658.0	523.6	(NA)	(NA)
36790	Electronic components and subassemblies, n.e.c.	5,574.1	4,261.6	3,445.2	3,569.4	3,724.5	3,209.8	(NA)	(NA)

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)
	INDUSTRY 3671, ELECTRON TUBES, ALL TYPES[2]			
	Materials, parts, containers, and supplies	.....	(X)	618.8
	Mill shapes and forms, except castings:			
	Carbon steel:			
331012	Sheet and strip	1,000 s. tons..	(D)	(D)
331011	Bars and bar shapes		(D)	(D)
331015	Structural shapes		(Z)	(Z)
331017	Wire and wire products		(Z)	(Z)
331019	All other carbon steel mill shapes and forms		(Z)	(Z)
	Alloy steel, except stainless:			
331021	Bars and bar shapes		(D)	(D)
331029	All other alloy steel mill shapes and forms		(D)	(D)
	Stainless steel:			
331033	Sheet and strip		.3	.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(D)	(D)
	Insulated wire and cable, except magnet wire:			
335792	Copper content	Mil. lb. (copper content)	(S)	.3
335793	Aluminum content	Mil. lb. (Aluminum content)	-	-
335770	Magnet wire	Million lb.....	(D)	(D)
	Copper and copper-base alloy:			
335728	Bare wire for electrical conduction only		(Z)	(Z)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		2.0	2.7
335143	Plate, sheet, and strip, including military cups and discs		.9	1.3
335152	Pipe and tube		.3	.8
	Aluminum and aluminum-base alloy:			
335301	Sheet, plate, and foil		(Z)	(Z)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		.1	.4
335008	All other aluminum mill shapes and forms	Million lb.....		
	Castings (rough and semifinished):			
332045	Steel:			
	Purchased	1,000 s. tons..	(D)	(D)
336100	Aluminum and aluminum-base alloy:			
	Purchased	Million lb.....	(S)	.3
336200	Copper and copper-base alloy:			
	Purchased	Million lb.....	(D)	(D)
339915	Metal powders			
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz..	160.7	5.2
	Fractional horsepower electric motors (under 1 hp):			
362110	Timing motors, synchronous and subsynchronous:			
	Purchased	Thousands.....	(D)	(D)
362115	Other fractional horsepower electric motors, excluding timing motors:			
	Purchased	Thousands.....	(D)	(D)
367010	Electron tubes, except X-ray:			
	Purchased	Millions.....	(S)	9.0
367400	Transistors, diodes, and rectifiers:			
	Purchased		(S)	3.1
367411	Integrated circuits:			
	Purchased	Millions.....	1.9	2.7
333977	Germanium	1,000 lb.....	(S)	.2
260091	Paper and paperboard containers	.....	(X)	8.9
329905	Mica	1,000 lb.....	(D)	(D)
335616	Nickel and nickel-base alloy mill shapes and forms	Million lb.....	(S)	2.6
339913	Ferrites (powder and paste)	.....	(D)	(D)
	Glass and glass products:			
322921	Tube blanks	Millions.....	(S)	186.7
320311	Other than tube blanks	.....	(X)	32.9
335691	Tantalum mill products	1,000 lb.....	(Z)	(Z)
335693	Molybdenum, rolled, drawn, or extruded	Million lb.....	(S)	3.6
335733	Tungsten wire	Million meters.	(S)	4.9
367901	Fabricated electron tube parts, except blanks	.....	(X)	84.6
367500	Capacitors for electronic applications	.....	(X)	6.0
367600	Resistors for electronic applications	.....	(X)	1.1
367700	Coils, transformers, reactors, and chokes for electronic applications	.....	(X)	11.8
367903	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modules, dial assemblies, etc	.....	(X)	35.2
364300	Current-carrying wiring devices	.....	(X)	(D)
	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	1.4
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	(X)	2.2
344401	Sheet metal products, except stampings	.....	(X)	3.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	2.1
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	3.9
346901	Metal stampings	.....	(X)	15.5
970099	All other materials and components, parts, containers, and supplies	.....	(X)	166.5
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	14.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3674, SEMICONDUCTORS AND RELATED DEVICES					
	Materials, parts, containers, and supplies	.....	(X)	1,424.6	(X)	703.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons..	(S)	.7		
331011	Bars and bar shapes		(S)	.2		
331015	Structural shapes				(S)	.1
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	10.5		
331029	All other alloy steel mill shapes and forms					
	Stainless steel:				(S)	.8
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
	Insulated wire and cable, except magnet wire:					
335792	Copper content	Mil. lb. (copper content).				
335793	Aluminum content	Mil. lb. (aluminum content)	(S)	1.1	(S)	.4
335770	Magnet wire	Million lb.....				
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		**.7	2.1	(S)	.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes				.9	1.5
335143	Plate, sheet, and strip, including military cups and discs		7.6	10.3	1.0	1.3
335152	Pipe and tube				(Z)	(Z)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	.7	.2	.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		4.5	4.0	.2	.2
335008	All other aluminum mill shapes and forms	Million lb.....	(S)	.8	(Z)	(Z)
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		7.0	1.8	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
339915	Metal powders	Million lb.....	(D)	(D)	(S)	.3
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz..	(S)	71.7	(X)	(4)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(D)	(D)	(S)	[5]1.3
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		(D)	(D)	(S)	(5)
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
367010	Electron tubes, except X-ray:					
	Purchased	Millions.....	(D)	(D)	(S)	.6
	Produced and consumed		(S)	(X)	(S)	(X)
367400	Transistors, diodes, and rectifiers:					
	Purchased		(S)	37.8	53.6	11.9
	Produced and consumed		(S)	(X)	(S)	(X)
367411	Integrated circuits:					
	Purchased		(S)	57.6	(X)	(D)
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
281995	Silicon, hyperpure	1,000 kilograms	348.2	86.7	(S)	47.5
333977	Germanium	1,000 lb.....	(S)	2.6	9.1	1.7
260091	Paper and paperboard containers	.....	(X)	2.3	(X)	3.0
329905	Mica	1,000 lb.....	(D)	(D)	-	-
335616	Nickel and nickel-base alloy mill shapes and forms	Million lb.....	.3	1.6	1.5	4.2
339913	Ferrites (powder and paste)	.....	(X)	-	(X)	-
	Glass and glass products:					
322921	Tube blanks	Millions.....	(D)	(D)	(S)	.6
320311	Other than tube blanks	.....	(X)	7.8	(X)	5.4
335691	Tantalum mill products	Thousand lb....	(D)	(D)	-	-
335693	Molybdenum, rolled, drawn or extruded	Million lb.....	(S)	1.2	(S)	1.3
335733	Tungsten wire	Million meters.	(D)	(D)	(S)	.1
367901	Fabricated electron tube parts, except blanks	.....	(X)	(D)	(X)	(D)
367500	Capacitors for electronic applications	.....	(X)	8.9		
367600	Resistors for electronic applications	.....	(X)	2.6		
367700	Coils, transformers, reactors, and chokes for electronic applications	.....	(X)	.5		
367903	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modules, dial assemblies, etc	.....	(X)	30.0	(X)	(4)
364300	Current-carrying wiring devices	.....	(X)	4.3		
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	3.1		

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**– Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3674, SEMICONDUCTORS AND RELATED DEVICES--Con.					
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	(X)	10.4	1.0	1.4
344401	Sheet metal products, except stampings	.....	(X)	1.1	(X)	[6]1.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	2.2		
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	9.5	(X)	[6]1.0
346901	Metal stampings	.....	(X)	68.6	(X)	[6]59.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	757.4	(X)	[4]443.1
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	210.9	(X)	51.9
	INDUSTRY 3675, ELECTRONIC CAPACITORS					
	Materials, parts, containers, and supplies	.....	(X)	245.3	(X)	142.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons	(S)	.3	(S)	1.4
331011	Bars and bar shapes					
331015	Structural shapes					
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	1.1	(S)	.5
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper content	Mil. lb (copper content)	(S)	.2	(D)	(D)
335793	Aluminum content	Mil. lb (aluminum content)				
335770	Magnet wire	Million lb				
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		1.3	2.2	2.8	2.6
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		.9	1.3	(S)	1.4
335143	Plate, sheet, and strip, including military cups and discs					
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	24.9	17.8	18.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	1.8	1.5	1.3
335008	All other aluminum mill shapes and forms		(S)	.3	(D)	(D)
339915	Metal powders	Million lb	(D)	(D)	(S)	9.5
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz	(S)	30.7	(X)	([7])
281995	Silicon, hyper pure	1,000 kilograms	-	-	-	-
260091	Paper and paperboard containers	.....	(X)	10.5	(X)	7.1
329905	Mica	1,000 lb	(D)	(D)	-	-
335616	Nickel and nickel-base alloy mill shapes and forms	Million lb	(D)	(D)	(D)	(D)
339913	Ferrites (power and paste)	.....	-	-	-	-
	Glass and glass products:					
322921	Tube blanks	Millions	(NA)	.7	-	-
320311	Other than tube blanks	.....			(X)	.5
335691	Tantalum mill products	1,000 lb	233.7	11.6	235.9	9.0
367901	Fabricated electron tube parts, except blanks	.....			(X)	-
367500	Capacitors for electronic applications	.....				
367600	Resistors for electronic applications	.....	(X)	1.9	(X)	([7])
367700	Coils, transformers, reactors, and chokes for electronic applications	.....				
367903	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modules, dial assemblies, etc	.....				
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	(X)	4.6	(X)	3.1
344401	Sheet metal products, except stampings	.....	(X)	.2	(X)	([7])
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	1.2	(X)	[6]2.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	.5	(X)	[6]1.0
346901	Metal	.....	(X)	7.3	(X)	[6]3.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	101.3	(X)	[7]70.4
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	26.0	(X)	5.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3676, ELECTRONIC RESISTORS					
	Materials, parts, containers, and supplies	.....	(X)	145.6	(X)	98.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons				
331011	Bars and bar shapes					
331015	Structural shapes		(S)	3.4	(S)	4.4
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*4.2	1.0		
331029	All other alloy steel mill shapes and forms				(S)	1.0
	Stainless steel:					
331033	Sheet and strip		(S)	1.4		
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content)				
335793	Aluminum	Mil. lb. (aluminum content)	1.7	.5	(D)	(D)
335770	Magnet wire	Million lb				
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		[8]5.3	[8]7.9	3.3	2.2
335102	Rod, bar, and mechanical wire, including extruded and or drawn shapes		2.8	3.1	3.4	3.7
334143	Plate, sheet, and strip, including military cups and discs		([8])	([8])	2.6	2.2
335152	Pipe and tube		([8])	([8])	.4	.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	1.2	(S)	.6
335008	All other aluminum mill shapes and forms					
339915	Metal powders	Million lb	(S)	.4	(D)	(D)
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz	(S)	9.3	(X)	([9])
367400	Transistors, diodes, and rectifiers:					
	Purchased	.....	(D)	(D)	(D)	(D)
367411	Integrated circuits:					
	Purchased	.....	(S)	.6	-	-
281995	Silicon, hyper pure	1,000 kilograms	(D)	(D)	(D)	(D)
260091	Paper and paperboard containers	.....	(X)	3.4	(X)	1.4
329905	Mica	1,000 lb	(S)	.3	-	-
335616	Nickel-base alloy mill shapes and forms	Million lb	(S)	.7	(D)	(D)
367500	Capacitors for electronic applications	.....	(X)	8.9	(X)	[6]8.0
367600	Resistors for electronic applications	.....	(X)	.9		
367903	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modules, dial assemblies, etc	.....	(X)	1.8	(X)	[6]8.0
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	.3	(X)	([9])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	(X)	3.4	(X)	1.7
344401	Sheet metal products, except stampings	.....	(X)	(D)	(X)	([9])
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	1.8	(X)	[6]4.0
01	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	4.6	(X)	[6]1.0
11	Metal stampings	.....	(X)	8.5	(X)	[6]7.0
9 9	All other materials and components, parts, containers, and supplies	.....	(X)	56.2	(X)	[9]43.1
9 0	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	20.5	(X)	10.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3677, ELECTRONIC COILS AND TRANSFORMERS					
	Materials, parts, containers, and supplies	.....	(X)	209.0	(X)	138.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons	.2	.3		
331011	Bars and bar shapes		**2.0	1.1		
331015	Structural shapes				(S)	10.3
331017	Wire and wire products		(S)	8.3		
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes					
331029	All other alloy steel mill shapes and forms					
	Stainless steel:		(S)	5.8	(S)	5.8
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb. (copper content)	**5.0	5.2		
335793	Aluminum	Mil. lb. (aluminum content)	(S)	2.3	(S)	16.5
335770	Magnet wire	Million lb	**22.8	28.9		
	Copper and copper base alloy:					
335728	Bare wire (for electrical conduction only)		**1.9	3.5	15.2	16.3
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		*1.5	.9	1.9	2.1
335143	Plate, sheet, and strip, including military cups, and discs				1.1	.9
335152	Pipe and tube		-	-	(D)	(D)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	.8	(S)	1.8
335008	All other aluminum mill shapes and forms	Million lb				
339915	Metal powders	Million lb	(S)	.3	(D)	(D)
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz	(S)	.5	(X)	(10)
367010	Electron tubes, except X-ray:					
	Purchased	Millions	(S)	(Z)	-	-
	Produced and consumed		(S)	(X)	(S)	(X)
367400	Transistors, diodes, and rectifiers:					
	Purchased		(D)	(D)	(S)	.6
	Produced and consumed		(S)	(X)	(S)	(X)
367411	Integrated circuits:					
	Purchased		(D)	(D)	(S)	-
	Produced and consumed	Millions	(S)	(X)	(S)	(X)
281995	Silicon, hyper pure	1,000 kilograms	(Z)	(Z)	.3	.4
333977	Germanium	1,000 lb	(Z)	(Z)	-	-
260091	Paper and paperboard containers	.....	(X)	1.4	(X)	2.3
329905	Mica	1,000 lb	(S)	.2	-	-
335616	Nickel and nickel-base alloy mill shapes and forms	Million lb	-	-	(S)	.4
339913	Ferrites (powder and paste)	.....	(X)	2.7	(X)	-
	Glass and glass products:					
322921	Tube blanks	Millions	(D)	(D)	-	-
320311	Other than tube blanks	.....	(X)	(D)	(X)	-
335691	Tantalum mill products	Thousands lb	-	-	(D)	(D)
335733	Tungsten wire	Million meters	(D)	(D)	-	-
367500	Capacitors for electronic applications	.....	(X)	2.8		
367600	Resistors for electronic applications	.....	(X)	.7		
367700	Coils, transformers, reactors, and chokes for electronic applications	.....	(X)	17.8	(X)	6 13.0
367903	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modules, dial assemblies, etc	.....	(X)	11.8		
364300	Current-carrying wiring devices	.....	(X)	(D)	(X)	-
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	.5	(X)	(10)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	(X)	2.9	(X)	2.2
344401	Sheet metal products, except stampings	.....	(X)	2.2	(X)	(10)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	2.0	(X)	6 6.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	.2	(X)	6 (Z)
346901	Metal stampings	.....	(X)	14.0	(X)	6 6.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	39.8	(X)	10 34.2
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	45.0	(X)	10.9
	INDUSTRY 3678, ELECTRONIC CONNECTORS					
	Materials, parts, containers, and supplies	.....	(X)	343.2	(X)	135.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons	.3	1.1		
331011	Bars and bar shapes					
331015	Structural shapes		(S)	2.0	(S)	3.4
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms	1,000 s. tons				

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3678, ELECTRONIC CONNECTORS--Con.					
	Mill shapes and forms, except castings--Con.					
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s. tons	(S)	9.7	(S)	2.1
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip					
331050	All other stainless steel mill shapes and forms	1,000 s. tons				
	Insulated wire and cable, except magnet wire:					
335792	Copper content	Mil. lb. (copper content)	(S)	3.0	1.5	
335793	Aluminum content	Mil. lb. (aluminum (content)	-	-	(S)	2.9
335770	Magnet wire	Million lb	.1	.2	(X)	
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		(D)	(D)	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		24.2	19.4	10.5	7.9
335143	Plate, sheet, and strip, including military cups and discs		(S)	20.0	13.3	13.1
335152	Pipe and tube		(D)	(D)	(D)	(D)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	(D)	(D)
335405	Extrudent shapes, including extruded rod, bar, pipe, tube, etc		5.0	7.0	3.0	2.0
335008	All other aluminum mill shapes and forms	Million lb	(D)	(D)	4.6	3.7
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons	(D)	(D)	-	-
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	.7	1.2	(S)	1.9
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	(D)	(D)	(D)
339915	Metal powders	Million lb	(Z)	(Z)	-	-
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz	(S)	32.1	(X)	[11]
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(Z)	(Z)	-	-
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased	Thousands	(D)	(D)	-	-
367010	Electron tubes, except X-ray:					
	Purchased	Millions	(Z)	(Z)	-	-
367400	Transistors, diodes, and rectifiers:					
	Purchased		(S)	.6	-	-
367411	Integrated circuits:					
	Purchased	Millions	(D)	(D)	(X)	-
281995	Silicon, hyper pure	1,000 kilograms	(Z)	(Z)	-	-
333977	Germanium	1,000 lb	-	.1	-	-
260091	Paper and paperboard containers		(X)	.9	(X)	1.9
335616	Nickel and nickel-base alloy mill shapes and forms	1,000 lb	(D)	(D)	(D)	(D)
339913	Ferrites (powder and paste)		(D)	(D)	(X)	-
367901	Fabricated electron tube parts, except blanks		(X)	(Z)		
367500	Capacitors for electronic applications		(X)	.6		
367600	Resistors for electronic applications		(X)	.2	(X)	[6]16.0
367700	Coils, transformers, reactors, and chokes for electronic applications		(X)	.1		
367903	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modules, dial assemblies, etc		(X)	16.4		
364300	Current-carrying wiring devices		(X)	4.1	(X)	[11]
382501	Electrical instrument mechanisms and meter movements, including instrument relays		(X)	(D)	(X)	[11]
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes		(X)	12.1	(X)	9.3
344401	Sheet metal products, except stampings		(X)	.7	(X)	[11]
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	12.0	(X)	[6]5.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	3.9	(X)	[6]5.0
346901	Metal stampings		(X)	12.2	(X)	[6]4.0
970099	All other materials and components, parts, containers, and supplies		(X)	128.8	(X)	[11]34.4
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	50.5	(X)	18.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	2,923.6	(X)	1,310.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331012	Sheet and strip	1,000 s. tons..	(S)	4.3	28.9	8.1
331011	Bars and bar shapes		(S)	2.2	5.0	2.8
331015	Structural shapes		(Z)	.1	(Z)	(Z)
331017	Wire and wire products		(S)	3.1	3.6	1.2
331019	All other carbon steel mill shapes and forms		(S)	1.4	1.9	1.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	.5	.5	.4
331029	All other alloy steel mill shapes and forms		(S)	8.3	14.2	8.9
	Stainless steel:					
331033	Sheet and strip		(S)	1.3	3.2	5.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	5.2	1.0	2.6
	Insulated wire and cable, except magnet wire:					
335792	Copper content	Mil. lb (copper content).	(S)	15.9	(S)	16.7
335793	Aluminum content	Mil. lb (aluminum content)	(S)	.3		
335770	Magnet wire	Million lb.....	**2.3	4.0		
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		3.2	4.3	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		16.5	14.7	3.7	4.1
335143	Plate, sheet, and strip, including military cups and discs		**9.2	17.0	4.9	7.3
335152	Pipe and tube		(S)	1.0	1.5	2.6
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	4.4	9.9	5.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		4.3	3.8	11.3	7.3
335008	All other aluminum mill shapes and forms	Million lb.....	(S)	5.8	6.0	3.3
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	**2.6	4.5	.7	2.0
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	*6.7	8.7	3.1	3.5
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	.8	.4	.3
	Produced and consumed		(S)	(X)	(S)	(X)
339915	Metal powders	Million lb.....	9.1	6.8	(D)	(D)
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	1,000 troy oz..	(S)	49.7	(X)	([12])
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands.....	(S)	4.8	(S)	2.4
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased	Thousands.....	(S)	1.0		
367010	Electron tubes, except X-ray:					
	Purchased	Millions.....	(S)	10.3	12.5	5.2
	Produced and consumed		(S)	(X)	(S)	(X)
367400	Transistors, diodes, and rectifiers:					
	Purchased		136.4	33.8	126.2	28.3
	Produced and consumed		(S)	(X)	(S)	(X)
367411	Integrated circuits:					
	Purchased		(S)	45.3	(X)	7.4
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
281995	Silicon, hyperpure	1,000 kilograms	(S)	2.4	(S)	3.0
333977	Germanium	1,000 lb.....	(D)	(D)	-	-
260091	Paper and paperboard containers	.....	(X)	18.2	(X)	8.7
329905	Mica	1,000 lb.....	(S)	2.4	-	-
335616	Nickel and nickel-base alloy mill shapes and forms	Million lb.....	*1.1	4.3	.8	3.0
339913	Ferrites (powder and paste)	.....	(X)	5.8	(X)	-
	Glass and glass products:					
322921	Tube blanks	Millions.....	(NA)	13.9	(X)	(D)
320311	Other than tube blanks	.....			(X)	3.0
335691	Tantalum mill products	Thousand lb....	(D)	(D)	(D)	(D)
335693	Molybdenum, rolled, drawn, or extruded	Million lb.....	(S)	1.0	(D)	(D)
335733	Tungsten wire	Million meters.	.9	.3	(D)	(D)
367901	Fabricated electron tube parts, except blanks	.....	(X)	3.6	(X)	(D)
367500	Capacitors for electronic applications	.....	(X)	25.9	(X)	[6]600.0
367600	Resistors for electronic applications	.....	(X)	17.0		
367700	Coils, transformers, reactors, and chokes for electronic applications	.....	(X)	18.7		
367903	Electronic components and accessories, except electron tube parts, including slide switches, printed circuit boards, antennas, modules, dial assemblies, etc	.....	(X)	130.0		
364300	Current-carrying wiring devices	.....	(X)	16.4	(X)	([12])
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	8.7	(X)	([12])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	.....	(X)	28.1	(X)	17.9
344401	Sheet metal products, except stampings	.....	(X)	14.3	(X)	([12])

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3679, ELECTRONIC COMPONENTS, N.E.C.--Con.					
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	23.2	(X)	[6]11.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	8.9	(X)	[6]6.0
346901	Metal stampings		(X)	27.4	(X)	[6]33.0
970099	All other materials and components, parts, containers, and supplies		(X)	1,148.3	(X)	[12]297.2
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	511.0	(X)	184.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than $50,000 or less than half the unit of measure specified for quantities.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1977, this industry is a combination of former industries 3671, 3672, and 3673, done because of declining size in electron tubes industries. No comparable materials consumed data are available for 1972.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material codes 333903, 367500, 367600, 367700, 367903, 364300, and 382501 were included with material code 970099.

[5]For 1972, material codes 362110 and 362115 were combined to avoid disclosing operations of individual companies.

[6]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[7]For 1972, material codes 333903, 367500, 361600, 367700, 367903 and 344401 were included with material code 970099.

[8]For 1977, material codes 335143 and 335152 were included with material code 335728.

[9]For 1972, material codes 333903, 382501, and 344401 were included with material code 970099.

[10]For 1972, material codes 333903, 382501, and 344401 were included with material code 970099.

[11]For 1972, material codes 333903, 364300, 382501, and 344401 were included with material code 970099.

[12]For 1972, material codes 333903, 364300, 382501, and 344401 were included with material code 970099.

Miscellaneous Electrical Equipment and Supplies

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DESCRIPTION OF INDUSTRIES

MISCELLANEOUS ELECTRICAL EQUIPMENT AND SUPPLIES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3691	Storage Batteries
3692	Primary Batteries, Dry and Wet
3693	X-ray, Electromedical, and Electrotherapeutic Apparatus
3694	Engine Electrical Equipment
3699	Electrical Equipment and Supplies, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3691, STORAGE BATTERIES

This industry comprises establishments primarily engaged in the manufacture of storage batteries. Establishments primarily engaged in the manufacture of primary batteries are classified in industry 3692.

The total value of shipments for establishments classified in the Storage Batteries industry amounted to $1,983 million in 1977, an increase of 105 percent from 1972. The value of shipments of products classified as primary to the industry was $1,911 million, an increase of 101 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $928 million in 1977, was 94 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.9 thousand employees, an increase of 17 percent from 1972. The leading States in employment were Pennsylvania, California, Florida, and Indiana, accounting for approximately 40 percent of the industry's 1977 employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3692, PRIMARY BATTERIES, DRY AND WET

This industry comprises establishments primarily engaged in the manufacture of primary batteries. Establishments primarily engaged in the manufacture of storage batteries are classified in industry 3691.

The total value of shipments for establishments classified in the Primary Batteries, Dry and Wet industry amounted to $666 million in 1977, an increase of 91 percent from 1972. The value of shipments of products classified as primary to the industry was $624 million, an increase of 97 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $343 million in 1977, was 55 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 11.0 thousand employees, an increase of 31 percent from 1972. The leading States in employment were North Carolina, Ohio, Wisconsin, and Tennessee, accounting for approximately 60 percent of the industry's 1977 employment. Data for these States have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The

data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3693, X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPEUTIC APPARATUS

This industry comprises establishments primarily engaged in the manufacture of radiographic X-ray, fluoroscopic X-ray, and therapeutic X-ray apparatus and tubes for medical, industrial, research, and control applications. This industry also includes establishments primarily engaged in the manufacture of electromedical and electrotherapeutic apparatus except electrotherapeutic lamp units for ultraviolet and infrared radiations (industry 3641). Establishments primary engaged in the manufacture of radio receiving tubes are classified in industry 3671, television receiving cathode-ray tubes in industry 3672, and transmitting tubes in industry 3673.

The total value of shipments for establishments classified in the X-ray Electromedical and Electrotherapeutic Apparatus industry amounted to $1,885 million in 1977. The value of shipments of products classified as primary to the industry was $1,838 million. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture, at $1,232 million in 1977. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 30.9 thousand employees. The leading States in employment were Ohio, New York, Massachusetts, and Connecticut, accounting for approximately 40 percent of the industry's 1977 employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3694, ENGINE ELECTRICAL EQUIPMENT

This industry comprises establishments primarily engaged in the manufacture of electrical equipment for internal combustion engines. Important products of this industry include armatures, starting motors, alternators, and generators for automobiles and aircraft; and ignition apparatus for internal combustion engines, including spark plugs, magnetos, coils, and distributors.

The total value of shipments for establishments classified in the Engine Electrical Equipment industry amounted to $3,647 million in 1977, an increase of 79 percent from 1972. The value of shipments of products classified as primary to the industry was $3,049 million, an increase of 71 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were spark plugs, for which shipments increased 45 percent, and passenger car cranking motors, for which shipments increased 52 percent. Value added by manufacture, at $2,041 million in 1977, was 68 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 63.8 thousand employees, an increase of 10 percent from 1972. The leading States in employment were Indiana, Michigan, Ohio, and Illinois, accounting for approximately 70 percent of the industry's 1977 employment. Data for Indiana and Michigan have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3699, ELECTRICAL EQUIPMENT AND SUPPLIES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of electrical machinery, equipment, and supplies, not elsewhere classified, such as appliance and extension cords, electric comfort heating equipment, electric bells and chimes, and Christmas tree lighting outfits.

The total value of shipments for establishments classified in the Electrical Equipment and Supplies, N.E.C. industry amounted to $749 million in 1977, an increase of 44 percent from 1972. The value of shipments of products classified as primary to the industry was $879 million, an increase of 51 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were lamp bulb components, for which shipments increased 56 percent. Value added by manufacture, at $387 million in 1977, was 59 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 20.7 thousand employees, an increase of 5 percent from 1972. The leading States in employment were New Jersey, Ohio, New York, and Indiana, accounting for approximately 40 percent of the industry's 1977 employment. Data for Indiana have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The 1977 census obtained data on shipments of electric comfort heating equipment only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of electric comfort heating equipment are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-34N, Selected Heating Equipment. Some of these data are also shown in table 6a.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 16 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3691, STORAGE BATTERIES																
1977 Census--	134	218	134	25.9	358.7	21.1	43.4	276.4	927.8	1 103.6	1 982.5	122.2	(NA)	292.9	97	99
1976 ASM----	(NA)	(NA)	(NA)	23.1	292.9	19.1	38.8	223.5	723.3	809.5	1 519.7	86.2	482.4	230.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	21.7	244.4	17.8	34.5	183.4	578.6	716.6	1 302.3	77.1	420.0	206.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	23.4	243.3	19.5	38.9	189.5	616.0	666.4	1 234.2	60.2	343.0	224.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	23.9	237.6	19.5	39.6	181.6	535.2	554.1	1 070.8	39.4	296.7	158.9	(NA)	(NA)
1972 Census--	138	212	120	22.1	209.3	18.0	36.0	159.3	477.8	511.7	968.6	30.8	280.6	133.7	98	99
1971 ASM----	(NA)	(NA)	(NA)	21.1	190.2	16.9	34.4	142.6	404.3	416.9	828.2	29.5	274.0	120.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	20.8	172.0	16.5	33.6	128.6	370.5	412.5	769.8	20.7	251.1	125.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	19.9	165.3	15.7	33.0	122.8	324.9	378.6	697.9	15.1	201.3	110.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	19.0	147.5	15.0	30.6	108.4	283.8	349.6	633.7	22.5	203.2	94.3	(NA)	(NA)
1967 Census--	154	232	120	19.3	133.3	15.2	30.6	97.7	259.2	313.7	577.5	14.8	182.2	92.1	99	97
1966 ASM----	(NA)	(NA)	(NA)	19.4	131.5	14.7	30.7	94.7	284.3	338.6	615.7	7.7	(NA)	93.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	19.3	127.7	14.8	30.6	91.8	296.5	331.8	615.2	21.1	(NA)	91.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	17.0	110.0	13.3	27.7	80.5	245.7	286.6	527.0	12.9	172.9	79.4	(NA)	(NA)
1963 Census--	169	252	120	17.5	108.7	13.9	28.4	80.2	244.2	275.6	516.5	12.0	162.6	75.1	98	99
INDUSTRY 3692, PRIMARY BATTERIES, DRY AND WET																
1977 Census--	41	58	33	11.0	118.2	9.0	18.0	87.4	343.2	329.4	666.1	35.4	(NA)	100.1	96	97
1976 ASM----	(NA)	(NA)	(NA)	10.4	110.5	8.1	16.0	76.5	360.8	290.6	627.1	24.8	155.2	93.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	9.0	85.5	6.8	13.7	58.0	261.2	212.1	473.7	15.4	140.3	93.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	9.5	83.8	7.6	15.2	60.0	243.3	190.1	423.3	13.2	127.3	91.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	8.7	70.8	7.1	14.2	51.8	232.3	151.2	380.7	7.9	112.0	72.1	(NA)	(NA)
1972 Census--	30	48	31	8.4	64.6	6.8	13.5	46.4	221.6	130.5	348.1	7.2	106.1	63.2	95	98
1971 ASM----	(NA)	(NA)	(NA)	9.4	67.4	7.6	15.5	49.4	225.2	129.8	350.5	7.2	88.3	54.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.4	63.7	7.5	14.9	46.4	198.6	130.8	329.5	10.8	86.1	51.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.8	67.2	8.8	17.2	47.8	207.0	138.1	340.5	9.1	78.3	53.8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	11.3	65.1	9.1	18.0	46.3	197.1	132.2	330.8	7.8	73.7	47.7	(NA)	(NA)
1967 Census--	32	49	36	11.0	61.0	8.9	17.6	43.2	188.7	122.0	307.6	20.2	74.8	45.4	97	86
1966 ASM----	(NA)	(NA)	(NA)	10.4	55.5	8.3	16.5	39.8	167.4	114.8	277.0	5.9	(NA)	42.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	8.9	46.7	6.9	14.2	32.6	139.8	97.9	233.1	2.6	(NA)	34.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	8.3	41.3	6.5	13.1	28.8	123.0	84.3	209.0	3.2	46.4	27.5	(NA)	(NA)
1963 Census--	26	46	29	8.5	40.6	6.8	13.6	29.0	113.8	80.3	195.3	4.1	46.2	30.0	96	91
INDUSTRY 3693, X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPUTIC APPARATUS																
1977 Census--	211	243	126	30.9	467.6	17.1	33.3	195.5	1 231.9	726.7	1 884.7	63.4	(NA)	542.3	98	92
1976 ASM----	(NA)	(NA)	(NA)	17.9	238.6	9.8	19.8	103.0	515.0	435.2	946.9	22.8	192.0	237.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	17.8	217.0	10.5	20.9	97.5	518.8	329.6	836.2	28.6	191.9	226.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	16.1	183.5	9.8	19.2	88.6	433.1	250.8	650.2	29.7	160.5	196.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	12.1	124.4	7.4	14.9	64.4	314.8	178.2	475.6	30.0	114.1	130.3	(NA)	(NA)
1972 Census--	95	104	54	12.1	120.9	6.9	14.1	55.5	311.3	147.2	443.7	8.1	(S)	106.9	95	92
1971 ASM----	(NA)	(NA)	(NA)	9.2	85.9	4.9	9.6	38.1	208.3	126.6	324.2	4.6	57.6	80.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	8.4	72.7	4.9	9.3	32.6	152.2	102.5	252.8	3.6	51.6	67.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	8.8	71.2	4.8	9.0	30.6	151.4	109.7	253.9	3.8	(S)	62.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	8.0	69.1	4.5	8.6	29.4	141.2	111.8	249.3	5.6	(S)	55.8	(NA)	(NA)
1967 Census--	78	82	41	7.9	63.3	4.3	8.7	26.3	135.7	104.0	233.2	11.2	(S)	56.1	93	86
1966 ASM----	(NA)	(NA)	(NA)	8.1	63.8	4.6	9.5	28.9	133.4	100.1	222.4	3.5	(NA)	51.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	6.2	47.6	3.5	7.0	21.3	100.2	72.8	164.2	2.1	(NA)	37.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.8	42.7	3.2	6.6	19.6	92.1	57.9	149.2	2.3	19.3	31.1	(NA)	(NA)
1963 Census--	56	58	30	6.2	43.8	3.4	6.9	20.1	86.5	56.9	143.7	2.1	17.3	30.0	83	80
INDUSTRY 3694, ENGINE ELECTRICAL EQUIPMENT																
1977 Census--	372	409	181	63.8	948.4	51.8	102.6	708.6	2 041.3	1 647.3	3 647.2	146.0	(NA)	488.3	81	89
1976 ASM----	(NA)	(NA)	(NA)	57.7	785.1	46.8	92.1	592.1	1 779.3	1 375.0	3 100.3	73.3	888.4	415.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	53.0	646.3	42.5	81.6	474.3	1 295.1	1 095.2	2 427.6	51.9	827.1	357.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	61.5	699.7	50.4	99.4	530.3	1 310.0	1 136.0	2 388.1	131.5	781.7	415.6	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	63.7	696.5	52.8	108.5	534.5	1 385.9	1 023.8	2 343.0	80.9	660.4	340.8	(NA)	(NA)
1972 Census--	265	290	143	57.9	591.3	47.7	96.9	451.7	1 212.6	855.0	2 035.0	30.8	614.0	245.2	79	87
1971 ASM----	(NA)	(NA)	(NA)	57.6	534.2	46.8	92.6	399.9	1 087.7	870.0	1 986.0	40.4	543.3	251.4	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	58.4	489.6	46.4	93.1	359.4	993.3	792.4	1 767.3	64.0	520.1	269.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	51.9	421.4	42.0	84.4	311.8	886.5	645.7	1 510.6	36.6	465.2	201.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	53.7	433.0	43.6	88.9	324.4	871.9	637.3	1 516.3	40.1	471.5	169.8	(NA)	(NA)
1967 Census--	239	269	132	55.4	387.4	44.2	86.3	286.8	766.0	598.7	1 364.7	46.0	410.3	177.0	81	85
1966 ASM----	(NA)	(NA)	(NA)	52.3	362.2	42.0	87.7	272.2	735.2	620.8	1 342.5	38.4	(NA)	167.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	42.8	287.6	35.1	73.1	216.0	605.1	481.0	1 073.7	20.4	(NA)	129.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	38.8	251.8	31.4	63.6	184.8	526.9	400.7	925.5	19.6	272.3	108.4	(NA)	(NA)
1963 Census--	163	182	98	40.6	250.2	32.7	66.9	184.4	496.7	398.0	900.7	15.5	258.5	99.8	87	84

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
	INDUSTRY 3699, ELECTRICAL EQUIPMENT AND SUPPLIES, N.E.C.															
1977 Census--	613	647	209	20.7	205.5	16.7	31.0	133.8	386.7	368.9	749.4	16.3	(NA)	112.2	94	77
1976 ASM----	(NA)	(NA)	(NA)	20.4	180.1	15.7	28.8	110.1	325.8	314.9	635.2	16.7	166.2	96.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	19.6	164.5	14.8	26.4	97.2	255.4	259.1	542.2	14.8	167.4	91.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	24.6	184.5	18.9	33.7	111.8	317.4	288.7	604.2	21.8	189.4	133.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	23.4	167.1	18.0	33.9	106.0	300.1	303.1	605.9	14.7	188.5	130.5	(NA)	(NA)
1972 Census--	969	998	192	19.3	130.0	14.8	27.4	80.9	263.9	243.7	501.8	16.0	153.3	79.7	92	78
1971 ASM----	(NA)	(NA)	(NA)	18.4	125.9	13.3	25.9	72.2	222.1	190.4	411.4	12.6	146.8	65.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	17.9	111.8	12.9	24.7	65.2	228.2	175.3	393.2	10.5	143.2	64.5	(NA)	(NA)
1969 ASM[5] ---	(NA)	(NA)	(NA)	21.9	134.3	15.6	30.1	75.9	294.6	180.7	470.8	30.6	151.1	73.5	(NA)	(NA)
1968 ASM[6] ---	(NA)	(NA)	(NA)	18.1	103.9	13.2	25.3	59.9	203.3	161.7	363.1	33.4	122.2	53.7	(NA)	(NA)
1967 Census--	528	538	128	13.6	70.0	11.1	20.2	45.2	144.4	147.0	290.8	11.5	63.9	41.8	93	77
1966 ASM[6] ---	(NA)	(NA)	(NA)	16.6	84.7	13.4	25.8	53.3	168.3	158.2	319.3	8.1	(NA)	45.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	13.3	67.1	10.6	21.0	42.6	126.8	120.4	245.6	8.0	(NA)	30.3	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	10.8	56.3	8.2	16.7	35.4	100.8	94.6	192.4	3.9	51.8	23.4	(NA)	(NA)
1963 Census--	245	350	106	10.9	51.2	8.5	16.5	33.4	101.2	89.0	190.0	3.3	48.7	24.3	90	49

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3691, STORAGE BATTERIES										
1977 Census--	13 832	(NA)	81	2 056	6.37	55	73	(NA)	35 773	38	21.38
1976 ASM----	12 679	20 883	82	2 031	5.76	53	72	31	31 311	40	18.64
1975 ASM----	11 262	19 354	82	1 938	5.31	55	73	32	26 663	42	16.77
1974 ASM----	10 397	14 658	83	1 994	4.87	53	73	27	26 324	39	15.83
1973 ASM----	9 941	12 414	81	2 030	4.58	51	73	27	22 393	44	13.51
1972 Census--	9 470	12 696	81	2 000	4.42	52	74	28	21 619	43	13.27
1971 ASM----	9 014	12 985	80	2 035	4.14	50	73	33	19 161	47	11.75
1970 ASM----	8 269	12 072	79	2 036	3.82	53	75	32	17 812	46	11.02
1969 ASM----	8 306	10 115	78	2 101	3.72	54	77	28	16 326	50	9.84
1968 ASM----	7 763	10 694	78	2 040	3.54	55	78	32	14 936	51	9.27
1967 Census--	6 906	9 440	78	2 013	3.19	54	77	31	13 430	51	8.47
1966 ASM----	6 778	(NA)	75	2 088	3.08	54	76	(NA)	14 654	46	9.26
1965 ASM----	6 616	(NA)	76	2 067	3.00	53	74	(NA)	15 362	43	9.68
1964 ASM----	6 470	10 170	78	2 082	2.90	54	75	32	14 452	44	8.87
1963 Census--	6 211	9 291	79	2 043	2.82	53	74	31	13 954	44	8.59
	INDUSTRY 3692, PRIMARY BATTERIES, DRY AND WET										
1977 Census--	10 749	(NA)	81	2 003	4.86	49	67	(NA)	31 222	34	19.10
1976 ASM----	10 625	14 923	77	1 975	4.78	46	63	24	34 692	30	22.55
1975 ASM----	9 500	15 588	75	2 014	4.23	44	62	29	29 022	32	19.06
1974 ASM----	8 821	13 400	80	2 000	3.94	44	64	30	25 610	34	16.00
1973 ASM----	8 137	12 873	81	2 000	3.64	39	58	29	26 701	30	16.35
1972 Census--	7 690	12 630	80	1 985	3.43	37	56	30	26 380	29	16.41
1971 ASM----	7 170	9 393	80	2 039	3.18	37	56	25	23 957	29	14.52
1970 ASM----	6 776	9 372	79	1 986	3.11	39	59	26	21 127	32	13.32
1969 ASM----	6 222	7 250	81	1 954	2.77	40	60	22	19 166	32	12.03
1968 ASM----	5 761	6 522	80	1 978	2.57	39	59	22	17 442	33	10.95
1967 Census--	5 545	6 800	80	1 977	2.45	39	59	24	17 154	32	10.72
1966 ASM----	5 336	(NA)	79	1 987	2.41	41	61	(NA)	16 096	33	10.14
1965 ASM----	5 247	(NA)	77	2 057	2.29	41	62	(NA)	15 707	33	9.84
1964 ASM----	4 975	5 590	78	2 015	2.19	40	60	22	14 819	33	9.38
1963 Census--	4 776	5 435	80	2 000	2.13	41	61	23	13 388	35	8.36
	INDUSTRY 3693, X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPUTIC APPARATUS										
1977 Census--	15 131	(NA)	55	1 948	5.86	38	63	(NA)	39 862	37	36.97
1976 ASM----	13 329	10 726	54	2 020	5.20	45	71	20	28 770	46	26.01
1975 ASM----	12 191	10 780	58	1 990	4.66	39	65	22	29 146	41	24.82
1974 ASM----	11 397	9 968	60	1 959	4.61	38	66	24	26 900	42	22.55
1973 ASM----	10 280	9 429	61	2 013	4.32	37	63	23	26 016	39	21.12
1972 Census--	9 991	(S)	57	2 043	3.93	33	60	(S)	25 727	38	22.07
1971 ASM----	9 336	6 260	53	1 959	3.96	39	65	17	22 641	41	21.69
1970 ASM----	8 654	6 142	58	1 897	3.50	40	69	20	18 119	47	16.36
1969 ASM----	8 090	(S)	54	1 875	3.40	43	71	(S)	17 204	47	16.82
1968 ASM----	8 637	(S)	56	1 911	3.41	44	72	(S)	17 650	48	16.41
1967 Census--	8 012	(S)	54	2 023	3.02	44	71	(S)	17 177	46	15.59
1966 ASM----	7 876	(NA)	56	2 065	3.04	45	73	(NA)	16 469	47	14.04
1965 ASM----	7 677	(NA)	56	2 000	3.04	44	73	(NA)	16 161	47	14.31
1964 ASM----	7 362	3 327	55	2 062	2.96	38	67	12	15 879	46	13.95
1963 Census--	7 064	2 790	54	2 029	2.91	39	70	12	13 951	50	12.53
	INDUSTRY 3694, ENGINE ELECTRICAL EQUIPMENT										
1977 Census--	14 868	(NA)	81	1 979	6.90	45	71	(NA)	32 000	46	19.89
1976 ASM----	13 606	15 396	81	1 967	6.42	44	69	28	30 837	44	19.31
1975 ASM----	12 194	15 605	80	1 920	5.81	45	71	34	24 435	49	15.87
1974 ASM----	11 377	12 710	81	1 972	5.33	47	76	32	21 300	53	13.17
1973 ASM----	10 934	10 367	82	2 054	4.92	43	73	28	21 756	50	12.77
1972 Census--	10 212	10 604	82	2 031	4.66	42	71	30	20 943	48	12.51
1971 ASM----	9 274	9 432	81	1 978	4.31	43	70	27	18 883	49	11.74
1970 ASM----	8 383	8 905	79	2 006	3.86	44	72	29	17 008	49	10.66
1969 ASM----	8 119	8 963	80	2 009	3.69	42	70	30	17 080	47	10.50
1968 ASM----	8 063	8 780	81	2 038	3.64	42	70	31	16 236	49	9.80
1967 Census--	6 992	7 406	79	1 952	3.32	43	72	30	13 826	50	8.87
1966 ASM----	6 925	(NA)	80	2 088	3.10	46	73	(NA)	14 057	49	8.38
1965 ASM----	6 719	(NA)	82	2 082	2.95	44	71	(NA)	14 137	47	8.27
1964 ASM----	6 489	7 018	80	2 025	2.90	43	70	29	13 579	47	8 28
1963 Census--	6 162	6 366	80	2 045	2.75	44	71	28	12 233	50	7.42

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3699, ELECTRICAL EQUIPMENT AND SUPPLIES, N.E.C.										
1977 Census--	9 922	(NA)	80	1 857	4.31	49	76	(NA)	18 670	53	12.47
1976 ASM----	8 828	8 147	76	1 834	3.82	49	77	26	15 970	55	11.31
1975 ASM----	8 392	8 540	75	1 783	3.68	47	78	30	13 030	64	9.67
1974 ASM----	7 500	7 699	76	1 783	3.31	47	78	31	12 902	58	9.41
1973 ASM----	7 141	8 055	76	1 883	3.12	50	77	31	12 824	55	8.85
1972 Census--	6 736	7 943	77	1 851	2.95	49	74	31	13 674	50	9.63
1971 ASM----	6 842	7 978	72	1 947	2.78	46	76	35	12 070	56	8.57
1970 ASM----	6 245	8 000	72	1 914	2.63	44	73	36	12 748	48	9.23
1969 ASM----	6 132	6 899	71	1 929	2.52	38	66	32	13 452	45	9.78
1968 ASM----	5 740	6 751	72	1 916	2.36	44	73	33	11 232	51	8.03
1967 Census--	5 147	4 698	81	1 819	2.23	50	74	21	10 617	48	7.14
1966 ASM----	5 102	(NA)	80	1 925	2.06	49	76	(NA)	10 138	50	6.52
1965 ASM----	5 045	(NA)	79	1 981	2.02	49	76	(NA)	9 533	52	6.03
1964 ASM----	5 212	4 796	75	2 036	2.11	49	78	26	9 333	55	6.03
1963 Census--	4 697	4 467	77	1 941	2.02	46	73	25	9 284	50	6.13

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3691, STORAGE BATTERIES														
United States	-	**218**	**134**	**25.9**	**358.7**	**21.1**	**43.4**	**276.4**	**927.8**	**1 103.6**	**1 982.5**	**122.2**	**22.1**	**477.8**
New England Division:														
Vermont	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	8	4	0.4	3.9	0.3	0.6	3.0	8.0	12.8	21.8	(D)	0.3	3.7
New Jersey	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	28.2
Pennsylvania	-	16	13	3.4	49.7	2.8	6.1	39.3	127.6	180.0	303.6	27.2	3.0	83.2
East North Central Division:														
Ohio	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.7
Indiana	-	8	6	1.9	33.3	1.7	3.7	28.6	72.3	85.9	152.4	(D)	(NA)	(D)
Illinois	-	13	7	1.2	15.7	0.9	1.6	10.8	42.0	46.3	88.0	1.9	1.1	26.1
Michigan	-	5	3	0.6	9.3	0.5	1.0	7.1	15.7	30.9	45.8	0.6	(NA)	(D)
Wisconsin	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	8	5	0.6	7.3	0.5	1.0	5.5	14.3	28.9	42.5	1.9	(NA)	(D)
Kansas	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Delaware	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	-	9	7	1.7	22.9	1.4	3.0	17.9	72.3	77.1	147.1	(D)	0.9	22.2
Florida	-	10	5	2.0	23.9	1.6	3.0	17.0	61.0	46.4	105.0	(D)	1.5	23.9
East South Central Division:														
Kentucky	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	7	5	0.4	5.3	0.4	0.7	4.5	15.8	19.6	33.6	(D)	0.3	7.5
Alabama	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mississippi	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oklahoma	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	16	9	1.8	22.7	1.5	3.0	17.4	52.1	72.7	121.3	4.5	1.7	30.7
Mountain Division:														
Colorado	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	-	9	4	0.4	6.4	0.4	0.7	4.7	15.1	20.9	35.7	(D)	0.4	7.6
California	-	37	18	2.7	40.3	2.3	4.7	31.0	103.3	127.8	221.1	11.1	2.3	53.4
INDUSTRY 3692, PRIMARY BATTERIES, DRY AND WET														
United States	-	**58**	**33**	**11.0**	**118.2**	**9.0**	**18.0**	**87.4**	**343.2**	**329.4**	**666.1**	**35.4**	**8.4**	**221.6**
New England Division:														
Vermont	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	7	3	0.6	6.0	0.4	0.7	3.4	15.6	5.2	20.6	(D)	(NA)	(D)
New Jersey	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	5	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Iowa	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3693, X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPUTIC APPARATUS														
United States	-	**243**	**126**	**30.9**	**467.6**	**17.1**	**33.3**	**195.5**	**1 231.9**	**726.7**	**1 884.7**	**63.4**	**12.1**	**311.3**
New England Division:														
Massachusetts	-	17	11	2.9	43.2	1.5	3.1	16.1	111.8	75.6	178.5	4.6	(NA)	(D)
Connecticut	-	14	9	2.9	42.0	1.6	3.1	17.7	126.4	94.3	212.0	5.8	(NA)	(NA)
Middle Atlantic Division:														
New York	-	26	17	3.0	55.2	1.3	2.5	17.7	161.0	67.5	226.8	5.0	(NA)	(D)
New Jersey	-	16	7	1.0	14.1	0.5	1.0	5.2	30.4	27.5	52.3	1.9	(NA)	(D)
Pennsylvania	-	6	5	0.8	11.7	0.5	1.0	5.4	23.0	16.8	36.2	1.6	(NA)	(NA)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3693, X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPUTIC APPARATUS—Con.														
East North Central Division:														
Ohio	–	7	6	3.7	54.9	1.7	3.4	20.0	142.0	80.0	221.2	10.2	(NA)	(D)
Illinois	–	22	11	1.2	17.3	0.7	1.3	6.9	41.0	40.8	75.6	1.7	(NA)	(D)
Wisconsin	–	11	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Minnesota	–	9	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	–	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	–	11	4	3.4	48.4	2.7	5.6	27.1	124.5	60.6	180.6	(D)	(NA)	(D)
West South Central Division:														
Texas	–	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	–	6	4	0.6	8.8	0.3	0.6	2.9	25.3	11.4	35.9	(D)	(NA)	(NA)
Utah	–	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	–	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon	–	7	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	–	46	21	2.8	39.5	1.6	3.1	17.1	90.5	59.5	143.9	5.7	(NA)	(D)
INDUSTRY 3694, ENGINE ELECTRICAL EQUIPMENT														
United States	–	**409**	**181**	**63.8**	**948.4**	**51.8**	**102.6**	**708.6**	**2 041.3**	**1 647.3**	**3 647.2**	**146.0**	**57.9**	**1 212.6**
New England Division:														
Massachusetts	–	15	11	2.0	21.8	1.6	3.2	14.6	49.4	41.8	90.1	1.7	(NA)	(D)
Connecticut	–	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	–	23	6	3.4	39.4	2.5	4.8	23.9	86.6	64.8	163.2	(D)	4.5	84.9
New Jersey	E4	17	9	1.0	10.6	0.9	1.7	7.4	20.0	17.5	36.8	1.0	0.7	11.0
Pennsylvania	–	22	11	1.6	15.2	1.4	2.7	11.3	29.8	37.9	65.1	(D)	1.0	14.3
East North Central Division:														
Ohio	–	18	12	8.0	111.1	6.1	11.6	73.1	273.6	179.9	448.4	17.2	7.4	130.8
Indiana	–	20	14	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	–	30	15	3.8	46.8	2.7	5.3	27.0	92.8	122.0	209.9	9.3	2.1	35.5
Michigan	–	36	19	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	–	11	6	0.7	8.0	0.6	1.0	5.6	20.3	12.5	32.9	0.5	1.5	21.7
West North Central Division:														
Minnesota	–	9	3	0.2	1.6	0.1	0.3	1.2	3.2	3.3	6.3	0.2	(NA)	(NA)
Iowa	–	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	–	15	9	0.9	7.7	0.7	1.3	5.1	19.1	21.7	39.5	(D)	0.7	11.2
Kansas	–	5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Georgia	–	12	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	–	21	3	0.8	5.9	0.7	1.2	4.0	14.3	13.1	26.1	0.7	(NA)	(NA)
East South Central Division:														
Kentucky	–	8	5	1.2	10.4	0.9	1.6	6.0	18.0	20.0	40.0	0.7	(NA)	(D)
Tennessee	–	7	3	0.7	5.0	0.6	1.1	3.8	7.0	5.5	13.2	(D)	(NA)	(D)
Alabama	–	6	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	–	7	6	1.0	9.8	0.9	1.7	8.1	27.2	23.9	47.2	(D)	(NA)	(D)
West South Central Division:														
Texas	E1	16	8	0.5	4.1	0.4	0.7	3.1	8.1	6.3	14.2	0.5	0.3	3.4
Mountain Division:														
Colorado	–	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	44	11	1.3	15.2	1.0	2.0	10.2	34.5	21.8	55.5	1.0	1.3	19.4
INDUSTRY 3699, ELECTRICAL EQUIPMENT AND SUPPLIES, N.E.C.														
United States	**E1**	**647**	**209**	**20.7**	**205.5**	**16.7**	**31.0**	**133.8**	**386.7**	**368.9**	**749.4**	**16.3**	**19.3**	**263.9**
New England Division:														
Maine	–	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Hampshire	–	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	E1	23	6	0.5	4.2	0.4	0.7	2.6	7.4	11.3	17.8	0.2	0.5	8.5
Rhode Island	–	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	E3	20	7	0.5	4.3	0.4	0.9	2.7	8.3	9.3	17.6	0.2	0.3	4.1
Middle Atlantic Division:														
New York	E1	74	24	1.9	17.1	1.4	2.6	10.5	41.8	37.7	77.9	1.3	(NA)	(D)
New Jersey	–	39	9	2.2	32.9	1.4	2.9	16.7	18.8	47.7	66.0	1.3	1.1	12.2
Pennsylvania	E2	18	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	–	41	15	1.9	19.5	1.7	3.1	15.1	44.5	40.5	84.9	2.5	2.0	29.7
Indiana	–	31	18	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	11.1
Illinois	E1	44	20	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Michigan	E2	22	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	–	13	2	0.2	2.0	0.2	0.3	1.1	3.8	3.1	6.8	0.1	0.4	4.7

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3699, ELECTRICAL EQUIPMENT AND SUPPLIES, N.E.C.—Con.														
West North Central Division:														
Minnesota	E2	19	9	0.6	6.0	0.5	0.9	3.7	10.1	8.7	18.7	0.6	(NA)	(D)
Missouri	–	13	5	0.6	5.6	0.4	0.9	3.6	12.7	6.2	18.8	0.2	(NA)	(D)
South Atlantic Division:														
Maryland	E6	7	4	0.2	1.4	0.1	0.2	0.8	2.4	2.1	4.5	(D)	0.2	2.4
Virginia	–	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	–	7	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	–	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	E2	9	5	0.2	1.9	0.2	0.3	1.4	3.6	2.9	6.5	0.1	(NA)	(NA)
Florida	E6	24	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	–	11	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	–	8	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E2	34	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	E9	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	–	8	4	0.3	3.9	0.2	0.4	2.4	6.7	6.8	14.1	0.1	(NA)	(NA)
California	E3	101	25	1.5	13.8	1.2	2.2	8.8	28.6	23.3	51.9	0.9	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Storage batteries (SIC 3691)	Primary batteries, dry and wet (SIC 3692)	X-ray and electro-medical equipment (SIC 3693)	Engine electrical equipment (SIC 3694)	Electrical equipment and supplies, n.e.c. (SIC 3699)
Primary product specialization ratio[1]	percent	97	96	98	81	94
Coverage ratio[2]	do	99	97	92	89	77
All establishments	number	218	58	243	409	547
With 1 to 19 employees	do	84	25	117	228	438
With 20 to 99 employees	do	49	7	55	98	153
With 100 employees or more	do	85	26	71	83	56
All employees, average for year	1,000	25.9	11.0	30.9	63.8	20.7
Payroll for year, all employees	mil. dol.	358.7	118.2	467.6	948.4	205.5
Production workers:						
Average for year	1,000	21.1	9.0	17.1	51.8	16.7
March	do	20.7	8.4	16.6	51.0	16.3
May	do	20.5	8.7	16.9	51.7	16.9
August	do	21.0	9.4	17.2	51.0	16.6
November	do	22.3	9.3	17.6	53.6	16.9
Hours	millions	43.4	18.0	33.3	102.6	31.0
January to March	do	10.5	4.2	8.1	24.9	7.7
April to June	do	10.7	4.6	8.3	26.5	7.9
July to September	do	10.5	4.5	8.1	25.1	7.5
October to December	do	11.7	4.7	8.8	26.1	7.9
Wages	mil. dol.	276.4	87.4	195.5	708.6	133.8
Cost of materials, etc.	do	1 103.6	329.4	726.7	1 647.3	368.9
Materials, parts, containers, etc., consumed	do	1 049.6	291.2	593.7	1 457.0	342.5
Resales	do	(D)	(D)	115.2	149.9	9.7
Fuels consumed	do	14.1	2.0	2.6	10.9	3.2
Purchased electric energy	do	29.6	4.4	9.0	24.0	6.9
Contract work	do	(D)	(D)	6.2	5.5	6.5
Value of shipments, including resales	do	1 982.5	666.1	1 884.7	3 647.2	749.4
Value of resales	do	(D)	(D)	140.7	243.0	14.6
Value added by manufacture	do	927.8	343.2	1 231.9	2 041.3	386.7
Manufacturers' inventories:						
Beginning of year	do	239.4	90.2	412.6	442.1	102.3
Finished products	do	85.3	11.8	131.7	146.4	28.7
Work in process	do	93.3	31.1	133.9	177.0	23.4
Materials, supplies, fuel, etc.	do	60.8	47.3	146.9	118.7	50.3
End of year	do	292.9	100.1	542.3	488.3	112.2
Finished products	do	103.2	11.1	158.4	150.6	31.7
Work in process	do	124.2	38.2	181.2	214.2	26.5
Materials, supplies, fuel, etc.	do	65.5	50.8	202.7	123.5	54.0
Capital expenditures for plant and equipment	do	123.5	36.0	65.4	150.9	19.4
New capital expenditures	do	122.2	35.4	63.4	146.0	16.3
New buildings and other structures	do	31.6	5.8	13.1	21.6	3.1
New machinery and equipment	do	90.7	29.6	50.3	124.3	13.1
Used capital expenditures	do	1.2	0.6	2.0	4.9	3.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Storage batteries (SIC 3691)		Primary batteries, dry and wet (SIC 3692)		X-ray and electro-medical equipment (SIC 3693)		Engine electrical equipment (SIC 3694)		Electrical equipment and supplies, n.e.c. (SIC 3699)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	3.1	9	0.5	1	(2.1)	25	2.9	7	(0.8)	40
Response coverage ratio[2] (percent)	68	(X)	65	(X)	52	(X)	70	(X)	66	(X)
Machinery	14.1	6	2.6	9	(2.6)	26	12.8	8	2.9	2
Response coverage ratio[2] (percent)	69	(X)	63	(X)	58	(X)	86	(X)	62	(X)
Cost of purchased communication services	3.5	11	(1.0)	23	(9.0)	24	5.4	7	(1.9)	25
Response coverage ratio[2] (percent)	60	(X)	73	(X)	44	(X)	80	(X)	63	(X)
Rental payments	8.8	5	1.2	1	16.0	5	9.8	4	(6.6)	15
Buildings and other structures	2.4	11	0.5	1	9.6	7	2.9	11	3.4	12
Machinery and equipment	6.4	6	0.7	1	6.3	4	6.9	2	(3.3)	31
Supplemental labor costs	82.3	2	25.6	1	78.9	3	252.2	1	31.1	3
Legal costs	31.2	2	9.6	2	32.7	2	66.8	1	16.5	3
Voluntary costs	51.1	1	16.0	1	46.2	6	185.4	1	14.6	5
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	149.6	2	42.7	4	168.3	3	191.1	2	53.9	6
New capital expenditures	(36.9)	23	4.5	4	11.6	7	21.5	5	(2.5)	20
Used capital expenditures	0.7	8	(Z)	1	(1.1)	53	(0.2)	18	-	(X)
Retirements	(0.9)	33	0.3	1	(2.0)	33	(1.7)	30	1.6	5
End of year	186.4	5	46.9	3	178.9	3	211.0	2	54.7	6
Machinery and equipment:										
Beginning of year	339.4	2	120.2	1	173.7	3	733.7	1	156.4	4
New capital expenditures	101.0	10	28.5	2	44.3	3	127.7	4	(15.2)	21
Automobiles, trucks, etc., for highway use[3]	(2.4)	(A)	(0.3)	(A)	(D)	(A)	(D)	(A)	(0.1)	(A)
Computers and peripheral data processing equipment[3]	(0.5)	(A)	-	(X)	(D)	(A)	(D)	(A)	(0.3)	(A)
All other[3]	(90.2)	23	(27.4)	73	(28.7)	70	(107.7)	19	(7.3)	(A)
New machinery and equipment, n.s.k.[4]	(7.9)	(A)	(0.8)	(A)	(12.6)	(A)	(12.5)	(A)	(7.5)	(A)
Used capital expenditures	0.3	7	0.2	1	1.3	1	4.6	1	2.7	2
Retirements	11.1	8	9.2	1	8.4	3	18.1	3	9.2	5
End of year	429.6	3	139.7	1	210.8	3	847.9	1	165.1	4
Total gross value of depreciable assets:										
Beginning of year	489.0	2	162.9	1	342.0	2	924.7	1	210.2	4
New capital expenditures	138.0	13	33.0	2	55.8	4	149.2	4	(17.7)	19
Used capital expenditures	1.0	6	0.3	1	(2.3)	24	4.8	2	2.7	2
Retirements	12.0	9	9.6	1	10.4	7	19.8	4	10.9	5
End of year	616.0	3	186.6	1	389.7	2	1,058.9	1	219.8	4
Depreciation charges during 1977	43.3	2	11.8	1	31.1	6	60.2	1	14.0	5
Buildings and other structures	7.9	2	1.9	3	9.0	3	6.3	2	2.1	8
Machinery and equipment	35.4	2	9.9	1	22.1	8	53.9	1	11.9	5

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3691, STORAGE BATTERIES												
Total	**-**	**218**	**25.9**	**358.7**	**21.1**	**43.4**	**276.4**	**927.8**	**1 103.6**	**1 982.5**	**122.2**	**292.9**
Establishments with an average of—												
1 to 4 employees	E9	39	0.1	0.9	0.1	0.1	0.7	0.8	2.6	4.8	0.3	0.7
5 to 9 employees	E8	31	0.2	2.6	0.2	0.3	1.9	5.7	6.7	12.5	0.7	1.9
10 to 19 employees	E8	14	0.2	2.3	0.2	0.3	1.7	6.5	7.5	14.1	0.7	2.0
20 to 49 employees	-	25	0.8	8.1	0.6	1.2	5.5	18.7	28.6	45.6	4.4	9.0
50 to 99 employees	-	24	1.8	21.4	1.4	2.8	15.7	54.4	71.8	120.9	14.0	20.2
100 to 249 employees	-	48	8.0	100.6	6.5	13.0	74.2	283.5	361.6	631.3	32.0	98.6
250 to 499 employees	-	31	10.1	145.8	8.6	17.4	116.6	390.3	484.5	849.3	43.1	122.4
500 to 999 employees	-	5	(4.8)	(77.2)	(3.7)	(8.2)	(60.1)	(168.0)	(140.3)	(304.0)	(27.0)	(38.1)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	73	0.5	5.7	0.4	0.8	4.4	13.8	16.0	29.8	1.7	4.4
INDUSTRY 3692, PRIMARY BATTERIES, DRY AND WET												
Total	**-**	**58**	**11.0**	**118.2**	**9.0**	**18.0**	**87.4**	**343.2**	**329.4**	**666.1**	**35.4**	**100.1**
Establishments with an average of—												
1 to 4 employees	E8	15	(Z)	0.1	(Z)	(Z)	0.1	0.4	0.3	0.8	(Z)	0.1
5 to 9 employees	E3	6	(Z)	0.5	(Z)	0.1	0.3	1.4	2.3	3.6	0.1	0.5
10 to 19 employees	E2	4	0.1	0.7	(Z)	0.1	0.5	3.4	4.7	8.1	(0.6)	7.2
20 to 49 employees	E7	3	0.1	1.2	0.1	0.2	0.8	2.9	2.5	5.4	(D)	0.8
50 to 99 employees	-	4	0.3	3.4	0.2	0.3	1.7	4.4	3.5	7.7	0.4	1.5
100 to 249 employees	-	8	1.3	13.6	0.9	1.8	8.5	38.5	31.0	67.8	2.9	9.7
250 to 499 employees	-	12	4.1	40.9	3.3	6.4	29.8	112.6	105.9	214.4	(31.5)	36.1
500 to 999 employees	-	3	(5.1)	(57.8)	(4.4)	(9.1)	(45.8)	(179.6)	(179.2)	(358.4)	(D)	(44.3)
1,000 to 2,499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	19	0.1	1.0	0.1	0.2	0.7	3.1	2.3	5.4	0.2	0.8
INDUSTRY 3693, X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPUTIC APPARATUS												
Total	**-**	**243**	**30.9**	**467.6**	**17.1**	**33.3**	**195.5**	**1 231.9**	**726.7**	**1 884.7**	**63.4**	**542.3**
Establishments with an average of—												
1 to 4 employees	E8	66	0.1	1.2	0.1	0.1	0.5	2.4	2.1	4.6	0.1	1.1
5 to 9 employees	E6	32	0.2	3.0	0.1	0.2	1.2	7.8	5.8	13.3	0.4	3.3
10 to 19 employees	E3	19	0.3	4.1	0.2	0.3	1.9	9.8	7.7	16.9	0.3	4.2
20 to 49 employees	E1	28	0.9	13.7	0.5	1.0	5.6	39.2	28.2	64.6	1.9	16.5
50 to 99 employees	-	27	2.0	25.5	1.2	2.2	10.8	51.2	44.6	93.3	2.3	21.2
100 to 249 employees	-	38	6.1	90.0	3.3	6.4	37.3	223.9	146.5	352.8	12.4	129.0
250 to 499 employees	-	17	5.6	74.3	2.6	5.1	25.5	212.4	154.9	341.4	12.0	111.0
500 to 999 employees	-	8	5.5	80.6	3.6	6.6	43.1	249.5	127.5	365.4	20.9	78.4
1,000 to 2,499 employees	-	8	10.2	175.3	5.5	11.3	69.5	435.6	209.4	632.4	13.1	177.6
Covered by administrative records[2]	E0	85	0.3	4.6	0.2	0.4	1.9	9.7	8.7	18.4	0.5	4.5
INDUSTRY 3694, ENGINE ELECTRICAL EQUIPMENT												
Total	**-**	**409**	**63.8**	**948.4**	**51.8**	**102.6**	**708.6**	**2 041.3**	**1 647.3**	**3 647.2**	**145.9**	**488.3**
Establishments with an average of—												
1 to 4 employees	E8	138	0.2	3.0	0.2	0.4	2.3	3.4	5.1	11.5	0.3	1.4
5 to 9 employees	E8	58	0.4	4.8	0.3	0.6	3.7	9.9	8.1	18.0	0.4	2.3
10 to 19 employees	E5	32	0.4	5.7	0.3	0.6	4.1	13.0	9.0	21.7	0.6	3.1
20 to 49 employees	E1	64	2.0	21.1	1.6	3.2	14.9	52.2	37.9	89.3	2.5	11.3
50 to 99 employees	-	34	2.4	20.3	2.0	3.7	14.6	41.6	40.4	79.8	1.5	15.7
100 to 249 employees	-	36	6.1	51.4	5.1	9.5	36.3	122.1	111.4	226.3	10.9	40.9
250 to 499 employees	-	23	7.9	74.7	6.6	12.3	53.3	181.9	184.0	358.0	8.9	63.7
500 to 999 employees	-	15	10.2	109.8	7.6	14.5	71.1	228.9	219.9	443.5	13.7	81.1
1,000 to 2,499 employees	-	4	5.5	65.8	4.4	8.7	46.1	137.7	95.4	244.1	17.2	39.0
2,500 employees or more	-	5	28.8	591.8	23.8	49.2	462.1	1 250.5	936.1	2 155.0	89.8	229.6
Covered by administrative records[2]	E0	169	0.6	9.0	0.6	1.0	6.9	18.9	15.0	33.8	0.8	4.4
INDUSTRY 3699, ELECTRICAL EQUIPMENT AND SUPPLIES, N.E.C.												
Total	**E1**	**647**	**20.7**	**205.5**	**16.7**	**31.0**	**133.8**	**386.7**	**368.9**	**749.4**	**16.3**	**112.2**
Establishments with an average of—												
1 to 4 employees	E7	263	0.5	4.2	0.4	0.7	2.7	8.0	6.7	15.1	0.2	2.2
5 to 9 employees	E5	88	0.6	5.5	0.5	0.8	3.5	12.0	9.8	21.8	0.6	2.9
10 to 19 employees	E3	87	1.2	11.1	0.9	1.7	6.8	24.7	23.2	47.4	0.9	6.4
20 to 49 employees	E2	104	3.4	32.8	2.7	5.0	20.0	67.0	54.2	121.4	1.7	16.8
50 to 99 employees	E1	49	3.4	31.0	2.7	4.9	19.7	60.5	51.8	112.3	2.1	19.2
100 to 249 employees	E1	43	6.2	53.6	5.0	9.3	36.3	114.2	97.6	209.2	3.4	35.4
250 to 499 employees	-	12	(5.6)	(67.4)	(4.5)	(8.6)	(44.9)	(100.4)	(125.5)	(222.2)	(7.4)	(29.4)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	222	0.7	6.7	0.6	1.1	4.2	13.1	10.9	24.0	0.4	3.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3691	**Storage batteries:**										
	Entire industry	218	25.9	358.7	21.1	43.4	276.4	927.8	1 103.6	1 982.5	122.2
	Establishments with 75 percent specialization or more	210	24.4	340.9	19.8	40.8	262.7	875.8	1 030.3	1 859.1	109.1
36913	Lead acid storage batteries, 1.5 cu. ft. and under:										
	Establishments with this product class primary	95	17.9	267.9	15.2	31.8	214.2	714.1	886.5	1 556.7	87.1
	Establishments with 75 percent specialization or more in class	89	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36914	Lead acid storage batteries, over 1.5 cu. ft.:										
	Establishments with this product class primary	21	3.5	42.6	2.6	5.2	30.5	113.7	129.0	240.0	16.2
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36915	Storage batteries, except lead acid, and parts for all types:										
	Establishments with this product class primary	13	3.6	37.5	2.5	4.9	23.9	76.5	59.3	132.7	16.6
	Establishments with 75 percent specialization or more in class	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3692	**Primary batteries, dry and wet:**										
	Entire industry	58	11.0	118.2	9.0	18.0	87.4	343.2	329.4	666.1	35.4
	Establishments with 75 percent specialization or more	54	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3693	**X-ray, electromedical and electrotheraputic apparatus:**										
	Entire industry	243	30.9	467.6	17.1	33.3	195.5	1 231.9	726.7	1 884.7	63.4
	Establishments with 75 percent specialization or more	237	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36931	Irradiation ionizing radiation equipment:										
	Establishments with this product class primary	53	12.3	190.8	6.7	12.8	81.6	465.0	308.5	729.1	18.3
	Establishments with 75 percent specialization or more in class	45	10.2	160.6	5.5	10.3	68.4	376.7	225.8	566.0	13.9
36932	Electromedical equipment, except ionizing radiation:										
	Establishments with this product class primary	73	17.5	260.4	9.7	19.2	107.2	730.6	387.6	1 089.7	43.6
	Establishments with 75 percent specialization or more in class	71	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3694	**Engine electrical equipment:**										
	Entire industry	409	63.8	948.4	51.8	102.6	708.6	2 041.3	1 647.3	3 647.2	146.0
	Establishments with 75 percent specialization or more	368	43.1	588.5	34.9	67.3	431.2	1 370.6	1 020.0	2 345.8	(D)
36941	Ignition harness and cable sets:										
	Establishments with this product class primary	47	5.9	45.7	5.1	9.0	31.7	104.5	109.5	208.4	5.2
	Establishments with 75 percent specialization or more in class	35	4.4	33.6	3.9	7.0	24.3	76.0	84.3	157.7	4.0
36942	Alternators, generators, and regulators:										
	Establishments with this product class primary	24	9.4	160.0	7.7	16.8	124.3	313.2	260.3	574.5	(D)
	Establishments with 75 percent specialization or more in class	9	1.5	20.8	0.9	1.8	10.4	36.3	43.9	78.2	(D)
36943	Cranking motors (starters):										
	Establishments with this product class primary	22	9.4	172.6	8.2	17.2	143.9	316.8	347.1	649.1	31.1
	Establishments with 75 percent specialization or more in class	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36944	Spark plugs, engine ignition:										
	Establishments with this product class primary	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36945	Other complete engine electrical equipment:										
	Establishments with this product class primary	40	24.4	369.5	20.0	39.2	280.4	840.8	565.1	1 389.2	29.2
	Establishments with 75 percent specialization or more in class	26	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
36946	Components and parts for engine electrical equipment:										
	Establishments with this product class primary	25	7.1	78.6	5.1	9.5	45.8	163.2	167.9	334.9	12.0
	Establishments with 75 percent specialization or more in class	13	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3699	**Electrical equipment and supplies, n.e.c.:**										
	Entire industry	647	20.7	205.5	16.7	31.0	133.8	386.7	368.9	749.4	16.3
	Establishments with 75 percent specialization or more	615	17.9	165.3	14.7	26.9	111.3	351.2	307.5	653.6	13.5
36993	Electric comfort heating equipment:										
	Establishments with this product class primary	8	0.5	6.2	0.4	0.7	3.7	13.5	8.4	22.4	0.2
	Establishments with 75 percent specialization or more in class	8	0.5	6.2	0.4	0.7	3.7	13.5	8.4	22.4	0.2
36994	Other electrical products:										
	Establishments with this product class primary	120	10.3	116.4	8.1	15.3	75.3	215.7	219.8	429.4	10.5
	Establishments with 75 percent specialization or more in class	102	7.3	73.7	5.9	11.0	51.6	165.2	149.6	312.2	7.4
36996	Appliance wire, cord and flexible cord sets (mfpm):										
	Establishments with this product class primary	61	4.2	31.4	3.7	6.8	22.1	62.1	60.0	121.3	1.7
	Establishments with 75 percent specialization or more in class	57	3.7	26.4	3.3	6.1	19.4	51.6	51.2	102.6	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3691	Storage batteries									
	1977	1,982.5	1,890.3	61.0	31.2	97	1,911.0	1,890.3	20.7	99
	1972	968.6	939.1	19.6	9.9	98	952.7	939.1	13.6	99
	1967	576.6	563.2	3.4	10.0	99	579.4	563.2	16.2	97
3692	Primary batteries, dry and wet									
	1977	666.1	603.5	27.8	34.8	96	623.9	603.5	20.4	97
	1972	348.1	311.6	17.4	19.2	95	316.7	311.6	5.1	98
	1967	307.6	283.2	8.9	15.5	97	327.9	283.2	44.7	86
3693	X-ray, electromedical, and electrotherapeutic apparatus									
	1977	1,884.7	1,695.9	32.2	156.6	98	1,837.8	1,695.9	141.9	92
	1972	443.7	352.6	18.5	72.6	95	383.0	352.6	30.4	92
	1967	233.2	154.0	11.9	67.3	93	179.8	154.0	25.8	86
3694	Engine electrical equipment									
	1977	3,647.2	2,724.0	652.0	271.1	81	3,049.3	2,724.0	325.3	89
	1972	2,035.0	1,545.8	420.0	69.2	79	1,781.0	1,545.8	235.2	87
	1967	1,364.7	1,031.2	238.1	95.4	81	1,220.2	1,031.2	189.0	85
3699	Electrical equipment and supplies, n.e.c.									
	1977	749.4	677.7	44.1	27.7	94	878.8	677.7	201.1	77
	1972	501.8	451.6	38.3	11.9	92	582.6	451.6	131.0	78
	1967	290.8	251.7	17.6	21.5	93	327.3	251.7	75.6	77

n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Storage batteries (SIC 3691)	Primary batteries, dry and wet (SIC 3692)	X-ray, electromedical and electrotherapeutic apparatus (SIC 3693)	Engine electrical equipment (SIC 3694)	Electrical equipment and supplies, n.e.c. (SIC 3699)	Other industries
	Total	(X)	1,982.5	666.1	1,884.7	3,647.2	749.4	(X)
	Primary products	(X)	1,890.3	603.5	1,695.9	2,724.0	677.7	(X)
	Secondary products	(X)	61.0	27.8	32.2	652.0	44.1	(X)
	Miscellaneous receipts	(X)	31.2	34.8	156.6	271.1	27.7	(X)
3691-	Storage batteries	1,911.0	1,890.3	(D)	-	-	-	(D)
36913	Lead acid storage batteries, 1.5 cu. ft. or less	1,458.1	(D)	-	-	-	-	(D)
36914	Lead acid storage batteries, over 1.5 cu. ft	233.8	229.2	(D)	-	-	-	(D)
36915	Storage batteries, except lead acid	164.3	149.6	(D)	-	-	-	(D)
36910	Storage batteries, n.s.k	54.8	(D)	-	-	-	-	(D)
36920	Primary batteries, dry and wet	623.9	(D)	603.5	-	(D)	-	(D)
3693-	X-ray, electromedical, and electrotherapeutic apparatus	1,837.8	-	-	1,695.2	-	-	141.9
36931	Irradiation-ionizing radiation equipment	664.6	-	-	596.5	-	-	68.1
36932	Electromedical equipment, except ionizing radiation	1,107.8	-	-	1,036.8	-	-	71.0
36930	X-ray, electromedical, and electrotherapeutic apparatus, n.s.k	65.5	-	-	62.6	-	-	2.9
3694-	Engine electrical equipment	3,049.3	(D)	-	-	2,724.0	-	(D)
36941	Ignition harness and cable sets	252.8	(D)	-	-	219.0	-	(D)
36942	Alternators, generators, and regulators	631.7	-	-	-	609.3	-	22.4
36943	Cranking motors (starters)	464.3	-	-	-	449.2	-	15.1
36944	Spark plugs, engine ignition	419.6	-	-	-	(D)	-	(D)
36945	Other engine electrical equipment	895.2	-	-	-	817.0	-	78.2
36946	Components for engine electrical equipment	310.0	-	-	-	(D)	-	(D)
36940	Engine electrical equipment, n.s.k	75.6	-	-	-	75.6	-	-
3699-	Electrical equipment and supplies, n.e.c	878.8	(D)	-	-	(D)	677.7	190.6
36993	Electric comfort heating equipment	87.3	-	-	-	-	(D)	(D)
36994	Other electrical products	476.7	(D)	-	-	(D)	367.4	(D)
36996	Appliance wire, cord, and flexible cord sets (MFPM)	132.3	-	-	-	-	(D)	(D)
36990	Electrical equipment, n.e.c., n.s.k	182.5	-	-	-	.8	174.5	7.2
	Other shipments by 4-digit product group:							
2819-	Industrial inorganic chemicals, n.e.c	(X)	(D)	-	-	-	-	(X)
2899-	Chemical preparations, n.e.c	(X)	(D)	-	-	-	-	(X)
3069-	Fabricated rubber products, n.e.c	(X)	-	-	(D)	-	-	(X)
3079-	Miscellaneous plastics products	(X)	-	(D)	-	(D)	(D)	(X)
3341-	Secondary nonferrous metals	(X)	(D)	-	-	-	-	(X)
3356-	Nonferrous rolling and drawing, n.e.c	(X)	-	-	-	(D)	-	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	-	-	(D)	(D)	(X)
3369-	Nonferrous castings, n.e.c	(X)	-	-	-	(D)	-	(X)
3399-	Primary metal products, n.e.c	(X)	-	-	-	(D)	-	(X)
3531-	Construction machinery	(X)	-	-	-	(D)	-	(X)
3559-	Special industry machinery, n.e.c	(X)	-	-	-	-	(D)	(X)
3561-	Pumps and pumping equipment	(X)	-	-	-	(D)	-	(X)
3564-	Blowers and fans	(X)	-	-	-	-	(D)	(X)
3568-	Power transmission equipment, n.e.c	(X)	-	-	-	(D)	-	(X)
3585-	Refrigeration and heating equipment	(X)	-	-	-	(D)	-	(X)
3592-	Carburetors, pistons, rings, and valves	(X)	-	-	-	(D)	-	(X)
3621-	Motors and generators	(X)	-	-	-	(D)	-	(X)
3629-	Electrical industrial apparatus, n.e.c	(X)	(D)	(D)	-	(D)	.9	(X)
3641-	Electric lamps	(X)	-	-	-	-	(D)	(X)
3643-	Current-carrying wiring devices	(X)	-	-	-	(D)	3.9	(X)
3647-	Vehicular lighting equipment	(D)	-	-	-	(D)	-	(X)
3648-	Lighting equipment, n.e.c	(X)	-	11.9	(D)	-	-	(X)
3651-	Radio and television receiving sets	(X)	-	-	-	(D)	-	(X)
3671-	Electron tubes, all types	(X)	-	-	(D)	-	-	(X)
3714-	Motor vehicle parts and accessories	(X)	(D)	-	-	274.9	-	(X)
3841-	Surgical and medical instruments	(X)	-	-	(D)	-	-	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	-	-	-	5.0	2.5	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	1.5	15.1	(D)	(X)
99980 98	Other miscellaneous receipts, including receipts for repair work, etc	(X)	2.0	0.7	13.5	8.0	(D)	(X)
99989 00	Resales	(X)	(D)	(D)	140.7	243.0	14.6	(X)

See footnotes at end of table.

Table 5c. **Industry-Product Analysis — Shipments by Product Class and Industry: 1977** — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products--Con.	
3693-	2831 Biological products	(D)	3694-	3647 Vehicular lighting equipment	(D)
	2834 Pharmaceutical preparations	(D)		3651 Radio and television receiving sets	(D)
	2869 Industrial organic chemicals, n.e.c	(D)		3714 Motor vehicle parts and accessories	198.0
	3671 Electron tubes, all types	(D)			
	3825 Instruments to measure electricity	(D)	3699-	3079 Miscellaneous plastics products	(D)
	3843 Dental equipment and supplies	(D)		3433 Heating equipment, except electric	(D)
	3861 Photographic equipment and supplies			3585 Refrigeration and heating equipment	46.1
				3634 Electric housewares and fans	29.7
3694-	3357 Nonferrous wire drawing and insulating	(D)		3641 Electric lamps	(D)
	3592 Carburetors, pistons, rings, and valves	(D)		3643 Current-carrying wiring devices	12.1
	3621 Motors and generators	(D)		3662 Radio and television communication equipment	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1977		
	STORAGE BATTERIES				
3691- --	Total	.....	(NA)	(X)	1,911.0
36913 --	Storage batteries, lead acid type, BCI dimensional size group 8D (1.5 cu. ft. and smaller)	.....	(NA)	(X)	1,458.1
	Starting, lighting, and ignition (SLI) type:				
36913 11	For original equipment	Millions.....	11	13.6	277.2
36913 12	For replacement		36	54.6	1,094.8
	Other than (SLI) type:				
36913 15	For original equipment		8	3.8	86.0
36913 16	For replacement	Millions.....	8		
36913 00	Storage batteries, lead acid type, BCI dimensional size group 8D (1.5 cu. ft. and smaller), n.s.k	.....	(NA)	(X)	-
36914 --	Storage batteries, lead acid type, larger than BCI dimensional size group 8D	.....	(NA)	(X)	233.8
	Starting, lighting, and ignition (SLI) type:				
36914 05	Aircraft and marine	Thousands.....	4	77.0	7.9
36914 06	Other		3	(S)	2.5
	Other than (SLI) type:				
	Motive power type:				
36914 11	Industrial truck		12	720.8	131.5
36914 19	Other motive power, including mining and industrial locomotive		9	266.0	21.9
36914 21	Railway diesel starting batteries		7	92.3	12.3
36914 22	Standby emergency power		6	214.9	51.5
36914 29	Other	Thousands.....	4	(S)	5.9
36914 00	Storage batteries, lead acid type, larger than BCI dimensional size group 8D, n.s.k	.....	(NA)	(X)	.3
36915 --	Storage batteries, except lead acid, including parts for all storage batteries	.....	(NA)	(X)	164.3
	Nickel cadmium:				
	Sealed:				
36915 72	Batteries	Millions.....	6	19.3	76.4
36915 73	Cells		(NA)	(S)	(X)
	Vented:				
36915 75	Batteries		4	(S)	27.4
36915 77	Cells	Millions.....	(NA)	(S)	(X)
36915 85	Other than nickel cadmium	Thousands.....	3	(X)	60.5
36915 91	Parts and supplies for all storage batteries	.....	9		
36915 00	Storage batteries, except lead acid, including parts for all storage batteries, n.s.k	.....	(NA)	(X)	-
36910 00	Storage batteries, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	25.0
36910 02	Storage batteries, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	29.8
			1972		
	STORAGE BATTERIES				
3691- --	Total	.....	(NA)	(X)	952.7
36911 --	Storage batteries, (SLI) type	.....	(NA)	(X)	703.3
	Motor vehicle batteries, including tractor, aircraft, and marine; starting, lighting, and ignition types, complete units:				
	Automobile, truck, farm tractor, and bus:				
	Automotive types (all types primarily designed to fit passenger cars, regardless of application):				
36911 13	For original equipment, 6 volt and 12 volt	Millions.....	(NA)	11.6	131.0
	For replacement:				
	Wet:				
36911 21	6 volt		(NA)	2.2	26.3
36911 23	12 volt		(NA)	18.3	215.4
	Dry charge:				
26911 27	6 volt		(NA)	2.7	31.9
36911 28	12 volt		(NA)	16.9	207.1
	Heavy-duty transport, motor coach and bus, and diesel starting batteries, excluding marine and railway diesel starting batteries:				
	For original equipment:				
36911 32	6 volt		(NA)	.9	12.9
36911 35	12 volt		(NA)	.6	10.3
	For replacement:				
36911 42	6 volt		(NA)	1.0	14.4
36911 45	12 volt		(NA)	1.1	20.9
36911 51	Aircraft		(NA)	.1	3.9
36911 71	Marine	Millions.....	(NA)	.2	3.3
36911 98	Other starting, lighting, and ignition type batteries, including motorcycle	.....	(NA)	(X)	25.9
36911 00	Storage batteries, (SLI) type, n.s.k	.....			

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1972 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1972--Con.		
3691- --	STORAGE BATTERIES--Con.				
36912 --	Storage batteries, other than SLI type, including parts for all storage batteries..	.....	(NA)	(X)	225.8
	Motive power type:				
36912 11	Industrial truck type.....	Millions.....	(NA)	.7	65.7
36912 19	Other motive power type storage batteries, including mining and industrial locomotive, and railway.....	Millions.....	(NA)	1.0	16.8
36912 51	Communication storage batteries, including radio station, telephone, telegraph, and railroad signaling.....	.....	(NA)	(X)	30.3
36912 61	Railway diesel starting batteries.....	Thousands.....	(NA)	19.9	6.6
	Nickel-cadmium:				
	Sealed:				
36912 72	Batteries.....	Millions.....	(NA)	11.7	31.1
36912 73	Cells.....		(NA)	32.3	(X)
	Vented:				
36912 75	Batteries.....		(NA)	4.6	16.5
36912 77	Cells.....		(NA)	8.6	(X)
	Lead acid:				
36912 81	Batteries.....		(NA)	1.9	17.9
36912 83	Cells.....	Millions.....	(NA)	(S)	(X)
36912 98	Other storage batteries, including farm and emergency lighting, and railway air conditioning and car lighting.....	Thousands.....	(NA)	426.7	17.6
36912 91	Parts and supplies for storage batteries.....	.....	(NA)	(X)	22.3
36912 00	Storage batteries, other than SLI type, including parts for all storage batteries, n.s.k.....	.....	(NA)	(X)	1.0
36910 00	Storage batteries, n.s.k., typically for establishments with 5 employees or more (see note).....	.....	(NA)	(X)	14.9
36910 02	Storage batteries, n.s.k., typically for establishments with less than 5 employees (see note).....	.....	(NA)	(X)	8.7

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	PRIMARY BATTERIES, DRY AND WET						
3692- --	Total.....	.....	(NA)	(X)	623.9	(X)	316.7
36920 --	Primary batteries, dry and wet:						
	Dry cell, leclanche type, except military:						
	General purpose (6 inches or equivalent) 1.5 volts:						
36920 12	Single unit.....	Millions.....	2			5.3	5.4
36920 16	Multiple unit.....		2				
	Flashlight batteries (single cells only):						
36920 21	D size (standard and industrial).....		4			370.3	51.1
36920 25	C size (medium).....		5				
36920 29	All other single flashlight cell batteries, including AA and AAA size penlight and N size novelty.....		4				
	Lantern batteries and other multiple cells, including general purpose RR type emergency:			1,255.9	260.6		
36920 31	Batteries.....		6			669.4	149.7
	Radio A-B and C cells:						
	Portable radio and instrument:						
36920 55	Batteries.....		3				
36920 58	All other radio A-B and C cells, including farm radio A-B packs, hearing aid calls, and photo-flash.....		5				
	Dry cell, except leclanche type and military:						
36920 72	Mercury.....		2				
36920 76	Alkali.....		4			208.9	59.9
36920 79	Other than mercury and alkali.....		7	948.2	308.2		
36920 82	Dry cell, military type, including gereral purpose 1.5 volts, standard flashlight, and portable radio types.....		5			34.7	22.2
36920 92	Wet cell.....	Millions.....	-			1.0	8.3
36920 95	Parts and supplies for primary batteries.....	.....	4	(X)	(3)	(X)	14.7
36920 00	Primary batteries, dry and wet, n.s.k., typically for establishments with more than 5 employees (see note).....	.....	(NA)	(X)	349.7	(X)	4.8
36920 02	Primary batteries, dry and wet, n.s.k., typically for establishments with less than 5 employees (see note).....	.....	(NA)	(X)	5.3	(X)	0.6

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
				1977	
	X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPEUTIC APPARATUS				
3693- --	Total	.....	(NA)	(X)	1,837.8
36931 --	Irradiation (ionizing radiation) equipment, including X-ray, beta ray, gamma ray, and nuclear (medical, dental, industrial, and scientific)	.....	(NA)	(X)	664.6
	Medical X-ray equipment:				
36931 01	Diagnostic	Thousands	17	(S)	401.7
36931 05	Therapeutic		5	(S)	42.9
36931 09	Dental X-ray equipment		5	(S)	45.6
36931 13	Industrial and scientific X-ray equipment, excluding gamma and beta ray equipment	Thousands	10	(S)	16.9
36931 17	X-ray equipment accessories	.....	12	(X)	43.1
36931 21	X-ray tubes (sold separately)	Thousands	9	29.3	35.6
36931 25	Parts for X-ray equipment (sold separately)	.....	15	(X)	24.7
36931 29	All other ionizing radiation equipment, including gamma and beta ray equipment, excluding accelerators, cyclotrons, etc	.....	6	(X)	40.9
36931 00	Irradiation (ionizing radiation) equipment, including X-ray, beta ray, gamma ray, and nuclear (medical, dental, industrial, and scientific), n.s.k	.....	(NA)	(X)	13.3
36932 --	Electromedical equipment, including diagnostic, therapeutic, and patient monitoring, but excluding ionizing radiation equipment	.....	(NA)	(X)	1,107.8
	Diagnostic:				
36932 11	Electrocardiograph (ECG)	Thousands	8	(S)	30.4
36932 13	Electroencephalograph (EEG)		1	(D)	4 24.2
36932 15	Electromyograph (EMG)		1	(D)	(4)
36932 17	Ultrasonic scanning devices		13	(S)	80.5
36932 19	Automated blood and body fluid analyzers	Thousands	9	(S)	275.5
36932 21	Audiological equipment	.....	1	(D)	(4)
36932 23	Endoscopic equipment (bronchoscope, cystoscope, proctosigmoidoscope, colonoscope, etc.)	Thousands	2	(D)	(4)
36932 25	Respiratory analysis equipment	Thousands	4	(S)	10.9
36932 27	All other diagnostic equipment	.....	13	(X)	77.9
	Therapeutic:				
36932 31	Pacemakers	Thousands	11	*121.4	213.5
36932 33	Defibrillators	Thousands	6	6.0	25.8
36932 35	Electrosurgical equipment	.....	4	(X)	4.9
36932 37	Diathermy apparatus (short wave and microwave)	.....	3	(X)	11.9
36932 39	Dialyzers	.....	2	(X)	(5)
36932 43	Ultrasonic therapeutic equipment	.....	3	(X)	2.2
36932 45	All other therapeutic equipment	.....	10	(X)	5 41.2
	Patient monitoring:				
36932 51	Intensive care/coronary care units, including component modules such as temperature, blood pressure, and pulse	.....	12	(X)	76.9
36932 53	Perinatal monitoring	.....	6		
36932 55	Respiratory monitoring	.....	3	(X)	102.1
36932 57	All other patient monitoring equipment	.....	9		
	Surgical support systems:				
36932 71	Heart-lung machines, excluding iron lungs	Thousands	-	-	-
36932 73	Blood-flow systems	.....	4		
36932 75	All other surgical support systems	.....	4	(X)	21.7
36932 91	Parts and accessories for diagnostic, therapeutic, monitoring, and surgical support systems (sold separately)	.....	21	(X)	108.2
36932 00	Electromedical equipment, including diagnostic, therapeutic, and patient monitoring, but excluding ionizing radiation equipment, n.s.k	.....	(NA)	(X)	-
36930 00	X-ray, electromedical and electrotherapeutic apparatus, n.s.k., typically for establishments with more than 5 employees (see note)	.....	(NA)	(X)	47.0
36930 02	X-ray, electromedical and electrotherapeutic apparatus, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	18.4
				1972	
3693- --	X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPEUTIC APPARATUS				
36930 00	As reported in the census of manufactures	.....	(NA)	(X)	383.0
	As reported in Current Industrial Reports Series MA-36N, Selected Electronics and Associated Products, Including Telephone and Telegraph Apparatus	.....	(NA)	(X)	384.4
	Medical diagnostic and therapeutic electronic equipment, except X-ray:				
36930 82	Diathermy equipment	Thousands	(NA)	(S)	(6)
36930 92	Electrocardiographs		(NA)	13.0	12.7
36930 94	Electroencephalographs	Thousands	(NA)	(S)	6 2.1
36930 96	Other (electronic)	.....	(NA)	(X)	161.4
	X-ray equipment and accessories, excluding X-ray, spectrometers, and diffraction equipment:				
36930 19	Medical and dental X-ray and gamma ray equipment	.....	(NA)	(X)	142.3
36930 34	Industrial and scientific X-ray equipment	.....	(NA)	(X)	24.8
36930 71	X-ray equipment accessories	.....	(NA)	(X)	21.4
36930 49	X-ray tubes and valves, sold separately	Thousands	(NA)	39.2	19.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	ENGINE ELECTRICAL EQUIPMENT						
3694- --	Total		(NA)	(X)	3,049.3	(X)	1,781.0
36941 --	Ignition harness and cable sets		(NA)	(X)	252.8	(X)	112.8
	Ignition harness sets:						
36941 11	Automotive type	Millions	27	(S)	158.4	27.3	61.8
36941 15	Aircraft type		3	(S)	16.1	(S)	(7)
36941 19	Other types, including tractor, stationery engine, etc.		5			(S)	(7)
	Cable sets:						
36941 31	Automotive type		20	(S)	61.5	8.9	21.6
36941 35	Aircraft and other types	Millions	7	0.2	12.9	.4	14.7
36941 00	Ignition harness and cable sets, n.s.k.		(NA)	(X)	4.0	(X)	7 14.7
36942 --	Battery charging alternators, generators, and regulators		(NA)	(X)	631.7	(X)	382.1
	Battery charging alternators and generators:						
36942 14	Passenger car and light truck type, new	Millions	7	14.3	363.8	14.7	236.5
36942 21	Heavy-duty truck and bus type, 12 volt and higher, new		6	**1.7	112.5	0.9	38.0
36942 29	All other, excluding farm lighting generators, but including farm tractor-type battery charging generators and generators sold to engine manufacturers for incorporation into end products, stationary engines, marine engines, construction machinery, etc.		3	(S)	(8)	(S)	(8)
36942 27	Rebuilt automotive type alternators and generators[9]		40	(S)	65.5	2.1	25.4
	Regulators for battery charging generators:						
36942 37	Rebuilt automotive type regulators[9]		2				
36942 41	Passenger car and light truck type, new		9				
36942 47	Heavy-duty truck and bus type, new		5	18.3	73.7	13.6	56.1
36942 49	Other types	Millions	2				
36942 00	Battery charging alternators, generators, and regulators, n.s.k.		(NA)	(X)	8 16.2	(X)	8 26.1
36943 --	Cranking (starting) motors		(NA)	(X)	464.3	(X)	313.7
36943 11	Passenger car and light truck type, new	Millions	5	13.8	319.6	12.9	210.3
36943 31	Heavy-duty truck and bus type, new		3			.6	29.1
36943 51	Farm tractor type		1				
36943 71	Other cranking motors, including aircraft type		1	(S)	144.7	3.4	72.7
36943 41	Rebuilt automotive type cranking motors[9]	Millions	25				
36943 00	Cranking motors, n.s.k.		(NA)	(X)	-	(X)	1.6
36944 --	Spark plugs		(NA)	1,017.6	419.6	891.8	290.3
36944 11	Automotive type	Millions	5	1,017.6	419.6	891.8	290.3
36944 31	Other types	Millions	3				
36945 --	Other complete electrical equipment for internal combustion engines		(NA)	(X)	895.2	(X)	411.8
	Ignition equipment:						
	Ignition coils:						
36945 11	Motor vehicle (passenger car, truck, and bus) type	Millions	12	(S)	57.7	21.5	54.5
36945 19	Other types		3				
	Distributors:						
36945 31	Motor vehicle (passenger car, truck, and bus) type		9			13.5	112.7
36945 39	Other types	Millions	2	17.9	418.9	.1	1.4
36945 53	Ignition magnetos (all types)	Thousands	8			80.5	5.3
36945 61	Other ignition equipment		14	(X)	69.1	(X)	19.8
	Switches specifically designed for use in vehicles and aircraft (all types: Starting, lighting, ignition, etc.):						
36945 81	Motor vehicle (passenger car, truck, and bus) type	Millions	20	365.5	268.6	221.4	164.0
36945 85	Aircraft type		2	(S)	31.9	3.2	6.3
36945 89	Other types		9				
36945 98	Other complete electrical equipment units for internal combustion engines and vehicles	Millions	9	(X)	22.6	(X)	22.1
36945 00	Other complete electrical equipment for internal combustion engines, n.s.k.		(NA)	(X)	26.4	(X)	25.7
36946 --	Components and parts for engine electrical equipment		(NA)	(X)	310.0	(X)	225.5
36946 11	Armatures, field coils, and drive-end housing for cranking motors		7	(X)	23.1	(X)	18.2
36946 21	Armatures for battery charging generators	Millions	3	0.3	2.7	1.3	8.5
	Parts for ignition distributors:						
36946 31	Distributor heads and rotors		11	(X)	30.3	(X)	16.9
	Breaker point sets:						
36946 53	Motor vehicle (passenger car, truck, and bus) type	Millions	12	98.2	92.5	168.3	67.0
36946 57	Other types		4				
	Condensers:						
36946 73	Motor vehicle (passenger car, truck, and bus) type		12	(S)	18.5	100.2	29.9
36946 75	Other types	Millions	4				
36946 98	Other component parts for engine electrical equipment, including field coils for battery charging generators		24	(X)	141.8	(X)	66.6
36946 00	Components and parts for engine electrical equipment, n.s.k.		(NA)	(X)	1.3	(X)	18.4
36940 00	Engine electrical equipment, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	41.8	(X)	35.0
36940 02	Engine electrical equipment, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	33.8	(X)	9.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	ELECTRICAL EQUIPMENT, N.E.C.						
3699- --	Total	.....	(NA)	(X)	878.8	(X)	582.6
36993 --	Electric comfort heating equipment, excluding portable and residential wall or baseboard radiant heating units, and excluding parts:						
	As reported in the census of manufactures	.....	31	(X)	87.3	(X)	([10])
	As reported in Current Industrial Reports series MA-34N, Selected Heating Equipment	.....	(NA)	(X)	[11] r88.5	(X)	43.7
	Central systems:						
36993 59	Duct furnaces	Thousands	6	46.3	6.0	(X)	43.7
36993 60	Warm air furnaces, forced air	↕	21	311.7	53.4		
36993 61	Heating boilers	Thousands	2	(D)	(D)		
	Decentralized systems, excluding portable and residential:						
36993 62	Baseboard	.....	5	(X)	7.9		
36993 63	Infrared	Thousands	6	40.3	2.6	(S)	([12])
36993 64	Unit heaters	Thousands	11	104.1	11.0		
36993 67	Other	.....	6	(X)	7.6		
36994 --	Other electrical equipment, n.e.c., except electric comfort heating equipment	.....	(NA)	(X)	476.7	(X)	([10])
36994 07	Parts for electric comfort heating equipment, excluding portable and residential wall or baseboard radiant heating units	.....	5	(X)	21.2	(X)	([12])
36994 11	Electric lamp (bulb) bases	.....	8	(X)	176.6	(X)	35.4
36994 21	Other electric lamp (bulb) components, including supports, electrodes, lead-ins, and filaments, but excluding lamp bulb blanks	.....	9			(X)	77.9
36994 51	Electric gongs, chimes, bells, etc	.....	7	(X)	35.2	(X)	12.4
36994 71	Christmas tree lighting outfits, including value of bulbs made or purchased and assembled in outfits	Thousands	11	(S)	29.2	(S)	15.9
36994 81	Electromagnets	.....	6	(X)	5.5	(S)	[12]110.2
36994 95	Other electrical products, n.e.c	.....	108	(X)	198.3		
36994 00	Other electrical products, n.e.c., n.s.k	.....	(NA)	(X)	10.7	(X)	30.6
36996 --	Appliance wire and cord and flexible cord sets:						
36996 00	Appliance wire and cord and flexible cord sets manufactured primarily from purchased insulated wire	.....	62	(X)	[13]132.3	(X)	[13]111.5
36990 00	Electrical equipment, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	158.5	(X)	94.0
36990 02	Electrical equipment, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	24.0	(X)	50.5

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1977, product codes 36920 95 and 36920 00 were combined to avoid disclosing operations of individual companies.

[4]For 1977, product codes 36932 13, 36932 15, 36932 21, and 36932 23 are combined to avoid disclosing operations of individual companies.

[5]For 1977, product codes 36932 39 and 36932 45 were combined to avoid disclosing operations of individual companies.

[6]For 1972, product codes 36930 82 and 36930 94 were combined to avoid disclosing operations of individual companies.

[7]For 1972, product codes 36941 15 and 36941 19 were included with product code 36941 00.

[8]For 1977 and 1972, product code 36942 29 was included with product code 36942 00.

[9]Data are limited to rebuilding on a factory basis.

[10]Product class 36993 and 36994 were created for 1977. 1972 totals are not comparable.

[11]Excludes value for product code 36993 61.

[12]For 1972, product codes 36993 61 through 36993 00 and 36994 07 were combined with product code 36994 95 to avoid disclosing operations of individual companies.

[13]Product detail is shown in Industry 3357, Nonferrous Wire Drawing and Insulating.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36913, LEAD ACID STORAGE BATTERIES, 1.5 CU. FT. OR LESS		
United States	1,458.1	(NA)
Middle Atlantic Division:		
Pennsylvania	179.7	(NA)
East North Central Division:		
Indiana	127.6	(NA)
Illinois	44.3	(NA)
West North Central Division:		
Missouri	38.9	(NA)
Kansas	99.3	(NA)
South Atlantic Division:		
North Carolina	30.4	(NA)
Georgia	118.7	(NA)
Florida	48.1	(NA)
West South Central Division:		
Texas	96.6	(NA)
Pacific Division:		
Oregon	32.0	(NA)
California	176.9	(NA)
36914, LEAD ACID STORAGE BATTERIES, OVER 1.5 CU. FT.		
United States	233.8	(NA)
Middle Atlantic Division:		
Pennsylvania	66.0	(NA)
36931, IRRADIATION-IONIZING RADIATION EQUIPMENT		
United States	664.6	(NA)
New England Division:		
Massachusetts	25.3	(NA)
Connecticut	69.7	(NA)
Middle Atlantic Division:		
New York	32.4	(NA)
East North Central Division:		
Ohio	191.6	(NA)
Illinois	49.0	(NA)
Pacific Division:		
California	54.0	(NA)
36932, ELECTROMEDICAL EQUIPMENT, EXCEPT IONIZING RADIATION		
United States	1,107.8	(NA)
New England Division:		
Massachusetts	132.5	(NA)
Connecticut	78.9	(NA)
Middle Atlantic Division:		
New York	179.3	(NA)
New Jersey	36.2	(NA)
Pennsylvania	30.4	(NA)
East North Central Division:		
Wisconsin	32.8	(NA)
South Atlantic Division:		
Florida	168.8	(NA)
West South Central Division:		
Texas	48.3	(NA)
Mountain Division:		
Colorado	37.2	(NA)
Pacific Division:		
Washington	24.4	(NA)
California	124.8	(NA)
36941, IGNITION HARNESS AND CABLE SETS		
United States	252.8	112.8
Middle Atlantic Division:		
New York	37.7	CC
Pennsylvania	24.6	9.0
East North Central Division:		
Ohio	11.3	AA
Indiana	21.8	EE
Illinois	14.3	6.7
Michigan	33.9	30.4
Wisconsin	2.7	CC
West North Central Division:		
Missouri	7.5	CC
East South Central Division:		
Mississippi	20.9	BB
36942, ALTERNATORS, GENERATORS, AND REGULATORS		
United States	631.7	382.1
East North Central Division:		
Illinois	39.2	4.1
East South Central Division:		
Alabama	5.8	BB
West South Central Division:		
Texas	2.1	(NA)
Pacific Division:		
California	9.9	CC
36943, CRANKING MOTORS, STARTERS		
United States	464.3	313.7
Pacific Division:		
California	4.8	BB
36945, OTHER COMPLETE ENGINE ELECTRICAL EQUIPMENT		
United States	895.2	411.8
New England Division:		
Massachusetts	52.9	FF
Middle Atlantic Division:		
Pennsylvania	2.8	BB
East North Central Division:		
Illinois	23.3	10.4
Michigan	129.5	GG
East South Central Division:		
Kentucky	13.9	EE
36946, COMPONENTS AND PARTS FOR ENGINE ELECTRICAL EQUIPMENT		
United States	310.0	225.5
Middle Atlantic Division:		
New York	51.0	72.5
East North Central Division:		
Michigan	5.1	(NA)
West North Central Division:		
Missouri	13.6	BB

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
36993, ELECTRIC COMFORT HEATING EQUIPMENT		
United States	87.3	(NA)
Middle Atlantic Division:		
New York	15.4	(NA)
East North Central Division:		
Ohio	6.0	(NA)
Illinois	9.0	(NA)
East South Central Division:		
Tennessee	8.9	(NA)
West South Central Division:		
Texas	5.3	(NA)
36994, ELECTRICAL PRODUCTS, N.E.C.		
United States	476.7	(NA)
New England Division:		
Massachusetts	18.6	(NA)
Middle Atlantic Division:		
New York	36.7	(NA)
New Jersey	35.5	(NA)
Pennsylvania	7.1	(NA)
East North Central Division:		
Illinois	35.9	(NA)
Michigan	4.5	(NA)
Wisconsin	14.8	(NA)
36994, OTHER ELECTRICAL PRODUCTS		
West North Central Division:		
Minnesota	7.4	(NA)
South Atlantic Division:		
Virginia	7.3	(NA)
Florida	2.2	(NA)
West South Central Division:		
Arkansas	6.8	(NA)
Texas	21.3	(NA)
Pacific Division:		
Washington	2.9	(NA)
California	39.3	(NA)
36996, APPLIANCE WIRE, CORD, AND FLEXIBLE CORD SETS (MFPM)		
United States	132.3	111.5
New England Division:		
Connecticut	5.5	(NA)
Middle Atlantic Division:		
New York	12.8	(NA)
East North Central Division:		
Ohio	19.1	(NA)
Indiana	39.8	(NA)
Illinois	13.3	(NA)
Michigan	4.5	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. n.e.c. Not elsewhere classified.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3691-	Storage batteries	1,911.0	1,503.6	1,290.9	1,222.2	1,059.2	952.7	579.4	504.5
36913	Lead acid storage batteries, 1.5 cu. ft. or less	1,458.1							
36914	Lead acid storage batteries, over 1.5 cu. ft.	233.8	1,466.1	1,272.4	1,212.8	1,038.6	929.1	559.5	500.0
36915	Storage batteries, except lead acid	164.3							
36910	Storage batteries, n.s.k.	54.8	(37.5)	(18.5)	9.4	20.6	23.6	19.9	4.5
36920	Primary batteries, dry and wet	623.9	605.8	455.5	393.5	346.1	316.7	327.9	191.6
3693-	X-ray, electromedical, and electrotherapeutic apparatus	1,837.8	820.3	740.2	592.7	423.3	383.0	179.8	108.6
36931	Irradiation-ionizing radiation equipment	664.6							
36932	Electromedical equipment except ionizing radiation	1,107.8	820.3	740.2	592.7	423.3	383.0	179.8	108.6
36930	X-ray, electromedical, and electrotherapeutic apparatus, n.s.k.	65.5							
3694-	Engine electrical equipment	3,049.3	2,649.3	2,050.1	2,049.0	2,052.0	1,781.0	1,220.2	873.9
36941	Ignition harness and cable sets	252.8	229.1	163.4	129.3	112.4	112.8	76.5	58.9
36942	Alternators, generators, and regulators	631.7	528.5	404.5	409.0	356.9	382.1	288.3	199.3
36943	Cranking motors (starters)	464.3	405.3	337.3	355.1	434.4	313.7	221.2	134.7
36944	Spark plugs, engine ignition	419.6	422.7	328.6	319.7	332.9	290.3	186.4	143.8
36945	Other engine electrical equipment	895.2	738.7	531.9	520.0	481.8	411.8	267.6	217.1
36946	Components for engine electrical equipment	310.0	300.8	261.9	301.4	286.4	225.5	150.6	114.7
36940	Engine electrical equipment, n.s.k.	75.6	(24.2)	(22.5)	(14.5)	47.2	44.8	29.6	5.4
3699-	Electrical equipment and supplies, n.e.c.	878.8	618.9	480.2	550.0	612.5	582.6	327.3	233.8
36993	Electrical comfort heating equipment	87.3	401.6	320.3	361.2	326.1	326.6	192.4	156.9
36994	Other electrical products	476.7							
36996	Appliance wire, cord, and flexible cord sets (MFPM)	132.3	(148.6)	(131.3)	(171.9)	161.6	111.5	97.8	66.0
36990	Electrical equipment, n.e.c., n.s.k.	182.5	(68.7)	(S)	(16.9)	124.8	144.5	37.1	10.9

n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3691, STORAGE BATTERIES					
	Materials, parts, containers, and supplies		(X)	1,049.6	(X)	493.4
	Lead and lead alloys:					
333233	Refined unalloyed lead	1,000 s. tons	301.2	177.0	254.7	76.6
333234	Antimonial lead	1,000 s. tons	378.9	248.6	340.0	110.1
333235	Lead-calcium alloyed	1,000 s. tons	*25.6	17.4	(X)	(2)
281634	Litharge	1,000 s. tons	273.4	167.8	156.1	53.7
335697	Zinc and zinc-base alloy mill shapes and forms	1,000 s. tons	(D)	(D)	(D)	(D)
362406	Carbon and graphite electrodes and other carbon and graphite products for electrical use		(X)	(D)	(X)	(D)
282104	Plastics resins consumed in the form of pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Millions lb	(D)	(D)	(X)	(2)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	46.6	(X)	(2)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	19.5	(X)	3 49.0
307902	Fabricated plastics products, except gaskets		(X)	47.9	(X)	3 47.0
281930	Sulfuric acid	1,000 s. tons	*354.2	13.2	(X)	3 14.0
281900	Other industrial inorganic chemicals, including mercury oxide and silver oxide		(X)	6.7		
331012	Carbon steel, sheet, and strip	1,000 s. tons	*7.4	5.3	(X)	(2)
346901	Metal stampings	1,000 s. tons	(X)	9.0		
970099	All other materials and components, parts, containers, and supplies		(X)	237.4	(X)	2 123.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	36.7	(X)	19.3
	INDUSTRY 3692, PRIMARY BATTERIES, DRY AND WET					
	Materials, parts, containers, and supplies		(X)	291.2	(X)	115.1
	Lead and lead alloys:					
333233	Refined unalloyed lead	1,000 s. tons	-	-		
333234	Antimonial lead	1,000 s. tons	(D)	(2)		
333235	Lead-calcium alloyed	1,000 s. tons	-	-	(S)	(3)
281634	Litharge	1,000 s. tons	-	-		
335697	Zinc and zinc-base alloy mill shapes and forms	1,000 s. tons	**27.8	26.1	21.0	10.6
362406	Carbon and graphite electrodes and other carbon and graphite products for electrical use		(X)	15.0	(X)	5.6
282104	Plastics resins consumed in the form of pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(D)	(5)		
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	(5)		
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	0.1		
307902	Fabricated plastics products, except gaskets		(X)	8.6		
281930	Sulfuric acid	1,000 s. tons	(D)	(5)	(X)	(2)
281900	Other industrial inorganic chemicals, including mercury oxide and silver oxide		(X)	37.8		
331012	Carbon steel, sheet and strip	1,000 s. tons	(D)	(5)		
346901	Metal stampings	1,000 s. tons	(S)	24.9		
970099	All other materials and components, parts, containers and supplies		(X)	147.7	(X)	2 96.5
971000	Materials, parts, containers and supplies, n.s.k.[4]		(X)	5 31.0	(X)	2.4

1977 material code	Material	Unit of measure	1977, quantity	1977, delivered cost (million dollars)
	INDUSTRY 3693, X-RAY, ELECTROMEDICAL, AND ELECTROTHERAPEUTIC APPARATUS[6]			
	Materials, parts, containers, and supplies		(X)	593.7
367301	Transmittal, industrial, and special purpose electron tubes, except X-ray		(X)	12.8
367408	Semiconductors		(X)	26.6
367501	Capacitors for electronic applications		(X)	3.7
367601	Resistors for electronic applications		(X)	3.1
367800	Electronic connectors		(X)	2.8
367900	Electronic components and accessories, n.e.c.		(X)	28.3
367901	Fabricated electron tube parts, except blanks		(X)	4.6
322921	Tube blanks		(X)	(D)
320311	Glass and glass products, other than tube blanks		(X)	4.3
335792	Copper insulated wire and cable, except magnet wire	Million lb	(S)	3.5
335793	Aluminum insulated wire and cable, except magnet wire	Million lb	(S)	0.3
335770	Magnet wire	Million lb	(S)	0.6
282104	Plastics resins in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	3.9
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	8.4
970099	All other materials and components, parts, containers, and supplies		(X)	7 375.5
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	115.3

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3694, ENGINE ELECTRICAL EQUIPMENT					
	Materials, parts, containers and supplies	.....	(X)	1,457.0	(X)	803.7
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	115.8	55.6	146.1	38.2
331012	Sheet and strip		232.3	91.7	193.7	41.8
331017	Wire and wire products		*24.7	15.6	8.0	2.9
331013	Plates		4.7	2.2	29.9	10.9
331019	All other carbon steel mill shapes and forms		30.6	14.2		
331020	Alloy steel, except stainless		5.2	5.1	12.2	6.0
331031	Stainless steel	1,000 s. tons..	0.9	2.4		
	Insulated wire and cable, except magnet wire:					
335792	Copper content	Million lb.....	36.4	35.9	62.5	56.4
335793	Aluminum content				0.6	
335770	Magnet wire		63.5	65.3	(S)	
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		9.0	9.1	61.9	40.9
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		26.4	21.2	12.2	9.9
335143	Plate, sheet, and strip, including military cups and discs		15.1	13.4	11.1	11.0
335152	Pipe and tube					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		1.6	1.6	2.5	1.5
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	5.4	4.6	4.1	2.7
	Primary metals:					
331051	Pig iron	1,000 s. tons..	(X)	-	(D)	(D)
333401	Aluminum and aluminum-base alloy refinery shapes		14.2	([8])	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		32.3	30.9	25.0	11.0
	Produced and consumed	1,000 s. tons..	-	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	61.6	51.2	22.5	15.4
	Produced and consumed		17.5	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	([8])	(D)	(D)
	Produced and consumed	Million lb.....	(S)	(X)	(D)	(X)
	Bearings:					
356218	Ball	.....	(X)	13.4	(X)	14.3
356201	Roller	.....	(X)	5.4	(X)	3.9
356810	Plain bearings and bushings	.....	(X)	6.1	(X)	[3]14.0
356601	Speed changers, drives, and gears	.....	(X)	13.3	(X)	([2])
265001	Paperboard boxes and containers	1,000 s. tons..	(S)	17.9	(X)	[3]11.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but exclude sheets, rods, tubes, and shapes	Million lb.....	43.0	28.5	(X)	[3]16.0
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons..	(S)	23.8	(X)	[3]20.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	35.7	(X)	[3]15.0
306902	Fabricated rubber products, except tires, tubes, hose, belting and gaskets	.....	(X)	12.5	(X)	[3]15.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	20.2	(X)	[3]15.0
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	20.1	(X)	[3]18.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[8]762.8	(X)	[2]357.0
971000	Materials, parts, containers, and supplies, n.s.k.[5]	.....	(X)	77.3	(X)	43.8
	INDUSTRY 3699, ELECTRICAL EQUIPMENT AND SUPPLIES, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	342.5	(X)	219.2
	Mill shapes and forms, except castings:					
331001	Carbon steel	1,000 s. tons..	*7.2	5.0	6.3	2.0
331020	Alloy steel, except stainless		(S)	4.1	0.4	0.6
331031	Stainless steel		0.1	0.6	2.1	2.3
335001	Aluminum and aluminum-base alloy		*8.5	7.7	7.6	3.8
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons..	(S)	0.6	(X)	[3]15.0
	Insulated wire and cable, except magnet wire:					
335792	Copper content	Million lb.....	(S)	34.2	26.8	28.8
335793	Aluminum content				(S)	
335770	Magnet wire		(S)	2.1	(X)	
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only		(S)	3.2	4.7	4.3
335100	Brass mill shapes (rod, sheet, bar, etc.)	Million lb.....	**3.2	3.6	10.0	6.5
364300	Current-carrying wiring devices	.....	(X)	17.6	(X)	[3]30.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	169.4	(X)	53.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	94.6	(X)	72.6

Footnotes are on next page.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, these material codes were not collected separately, but were included in material code 970099.

[3]From 1972 Census of Manufactures Supplemental Inquity: Consumption of Materials, Parts, Containers, and Supplies During 1972 (form MA-131).

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1977, material codes 333234, 282104, 307903, 281930, and 331012 were combined with material code 971000 to avoid disclosing operations of individual companies.

[6]Material consumed by kind data were not collected in 1972.

[7]Includes delivered cost of material code 322921.

[8]For 1977, material code 333401 and material code 336200 data for copper and copper-base alloy purchased were included with material code 970099.

Motor Vehicles and Equipment

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DESCRIPTION OF INDUSTRIES

MOTOR VEHICLES AND EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title	
3711	Motor Vehicles and Car Bodies
3713	Truck and Bus Bodies
3714	Motor Vehicle Parts and Accessories
3715	Truck Trailers
3716	Motor Homes Produced on Purchased Chassis

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3711, MOTOR VEHICLES AND CAR BODIES

This industry comprises establishments primarily engaged in the manufacture of passenger cars, passenger car bodies, trucks, buses, and wheeled combat vehicles. Complete car chassis and complete truck chassis, with or without cab, are also included in this industry. Establishments primarily engaged in the manufacture of trucks or buses on purchased chassis are classified in industry 3713; tanks, self-propelled weapons, and other military vehicles in industry 3795; and motor homes produced on purchased chassis in industry 3716.

The total value of shipments for establishments classified in the Motor Vehicles and Car Bodies industry amounted to $76,517 million in 1977, an increase of 78 percent from 1972. The value of shipments of products classified as primary to the industry was $72,979 million, an increase of 78 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were trucks and truck tractors, for which shipments increased 125 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $18,723 million in 1977, was 59 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 343.6 thousand employees, an increase of 1 percent from 1972. The leading States in employment were Ohio, Michigan, Missouri, and California, accounting for approximately 70 percent of the industry's 1977 employment. Data for California have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3713, TRUCK AND BUS BODIES

This industry comprises establishments primarily engaged in the manufacture of truck and bus bodies, sold separately or for assembly on purchased chassis. Establishments primarily engaged in the manufacture of motor homes produced on purchased chassis are classified in industry 3716; cars, trucks, buses, motor homes, and tactical military vehicles produced on chassis of own manufacture in industry 3711.

The 1977 definition of this industry has been revised from that given in the 1977 SIC Manual, but the SIC number and title are unchanged.

The effect of the revisions on the data are summarized in table 1c, Composition of New (1977) Industry Based on Old (1972) Standard Industrial Classification.

The total value of shipments for establishments classified in the Truck and Bus Bodies industry amounted to $2,003 million.

The value of shipments of products classified as primary to the industry was $1,881 million. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture was $946 million. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

The industry had 34.8 thousand employees. The leading States in employment were Pennsylvania, Ohio, Indiana, and California, accounting for approximately 45 percent of the industry's employment. Data for Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 13 percent of total value of shipments.

INDUSTRY 3714, MOTOR VEHICLE PARTS AND ACCESSORIES

This industry comprises establishments primarily engaged in the manufacture of parts and accessories for cars, trucks, and buses. Establishments primarily engaged in the manufacture of automobiles and trucks are classified in industry 3711; motor homes produced on purchased chassis in industry 3716; tires and tubes in industry 3011; automobile glass in major group 32; automobile stampings in industry 3465; vehicular lighting equipment in industry 3647; ignition systems in industry 3694; storage batteries in industry 3691; and carburetors, pistons, rings, and valves in industry 3592.

The total value of shipments for establishments classified in the Motor Vehicle Parts and Accessories industry amounted to $35,750 million in 1977, an increase of 95 percent from 1972. The value of shipments of products classified as primary to the industry was $37,842 million, an increase of 95 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were gasoline engines, for which shipments increased 120 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $16,263 million in 1977, was 77 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 450.7 thousand employees, an increase of 12 percent from 1972. The leading States in employment were Michigan, Ohio, Indiana, and California, accounting for approximately 70 percent of the industry's 1977 employment. These same States were in the forefront for 1972 when they accounted for approximately 70 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3715, TRUCK TRAILERS

This industry comprises establishments primarily engaged in the manufacture of truck trailers, truck trailer chassis, detachable trailer bodies (cargo containers), and detachable trailers (cargo containers) chassis. Establishments primarily engaged in the manufacture of travel and camping trailers are classified in industry 3792; and establishments primarily engaged in the manufacture of other trailers pulled by automobiles are classified in industry 3799.

The total value of shipments for establishments classified in the Truck Trailer industry amounted to $1,910 million in 1977, an increase of 71 percent from 1972. The value of shipments of products classified as primary to the industry was $1,804 million, an increase of 67 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $645 million in 1977, was 44 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 28.1 thousand employees, an increase of 14 percent from 1972. The leading States in employment were Pennsylvania, Texas, Georgia, and California, accounting for approximately 40 percent of the industry's 1977 employment. Data for Texas, Georgia, and California have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of truck trailers and chassis with axle ratings of 10,000 pounds and over only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of these truck trailers and chassis are reported monthly in the Census Bureau's Current Industrial Reports (CIR) M37L, Truck Trailers. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3716, MOTOR HOMES PRODUCED ON PURCHASED CHASSIS

This industry comprises establishments primarily engaged in the manufacture of motor homes produced on purchased chassis. Establishments primarily engaged in the manufacture of motor homes produced on chassis of own manufacture are classified in industry 3711.

The Motor Homes Produced on Purchased Chassis industry is included for the first time in the 1977 census.

The effect of the revisions on the data are summarized in table 1c, Composition of New (1977) Industry Based on Old (1972) Standard Industrial Classification.

The total value of shipments for establishments classified in the Motor Homes Produced on Purchased Chassis industry amounted to $1,564 million. The value of shipments of products classified as primary to the industry was $1,494 million. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) Value added by manufacture was $443 million. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

The industry had 19.2 thousand employees. The leading States in employment were California, Indiana, Iowa, and Michigan, accounting for approximately 80 percent of the industry's employment. Data for Indiana and Iowa have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3711, MOTOR VEHICLES AND CAR BODIES																
1977 Census.	254	322	119	343.6	7 077.6	289.9	620.4	5 724.9	18 723.7	58 131.6	76 517.8	1 706.1	(NA)	4 010.8	95	99
1976 ASM....	(NA)	(NA)	(NA)	324.3	5 876.5	273.8	559.8	4 731.8	15 843.7	47 190.2	62 717.4	1 046.9	6 767.0	3 380.0	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	282.5	4 339.9	235.1	447.0	3 404.5	10 441.0	34 795.2	45 340.2	655.7	6 333.7	2 639.6	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	320.2	4 600.9	262.2	514.8	3 568.1	10 849.4	33 167.2	43 868.5	1 042.9	6 332.2	2 898.9	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	368.8	5 146.8	309.1	657.4	4 096.6	13 666.0	36 676.8	50 227.7	805.9	5 489.6	2 531.8	(NA)	(NA)
1972 Census.	167	231	119	339.2	4 299.5	284.0	587.9	3 405.4	11 782.5	31 169.5	42 905.6	917.2	5 422.2	2 183.9	96	99
1971 ASM....	(NA)	(NA)	(NA)	340.8	3 893.8	283.0	573.0	3 072.0	11 679.7	28 526.1	40 306.5	315.5	4 995.4	1 976.3	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	305.2	3 032.9	245.3	476.7	2 296.5	7 348.3	20 531.0	27 750.7	305.7	4 752.5	2 075.0	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	351.0	3 360.0	293.4	588.1	2 628.3	9 343.2	24 793.2	34 335.5	391.1	4 592.0	1 962.0	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	332.8	3 321.7	272.4	612.8	2 629.7	9 552.3	24 129.7	33 664.8	298.8	4 243.7	2 030.0	(NA)	(NA)
1967 Census.	107	181	130	321.2	2 699.1	262.3	524.4	2 098.4	7 353.6	19 964.7	27 296.0	263.2	3 889.3	1 802.3	96	99
INDUSTRY 3713, TRUCK AND BUS BODIES[3]																
1977 Census.	769	820	313	34.8	428.6	27.4	53.9	307.6	946.3	1 076.2	2 003.3	44.2	(NA)	352.1	94	93
INDUSTRY 3714, MOTOR VEHICLE PARTS, ACCESSORIES																
1977 Census.	2 196	2 623	997	450.7	8 004.0	372.5	777.2	6 284.9	16 263.8	19 749.7	35 750.8	1 842.2	(NA)	4 124.1	94	87
1976 ASM....	(NA)	(NA)	(NA)	410.0	6 453.6	339.9	698.8	5 074.0	13 709.4	15 858.7	29 024.4	962.1	10 115.6	3 667.8	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	362.0	4 962.5	294.4	577.0	3 799.1	9 986.3	11 960.8	22 030.1	1 114.4	9 878.7	2 885.1	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	410.1	5 247.7	337.1	675.9	4 069.9	10 250.0	11 686.4	21 656.0	1 290.1	9 296.3	3 139.8	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	444.1	5 491.4	371.1	782.4	4 356.9	10 641.3	11 273.2	21 606.5	1 033.6	8 035.2	2 633.3	(NA)	(NA)
1972 Census.	1 746	2 119	935	400.9	4 601.5	332.3	696.0	3 620.3	9 164.7	9 330.4	18 333.5	1 113.1	7 858.4	2 049.6	94	86
1971 ASM....	(NA)	(NA)	(NA)	379.8	3 956.5	313.7	631.9	3 080.5	8 115.5	8 019.3	16 117.7	429.3	6 992.8	1 893.9	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	356.8	3 357.4	289.7	587.5	2 560.6	6 432.0	6 664.4	13 073.2	562.1	6 770.3	1 822.1	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	405.1	3 711.1	337.2	699.7	2 926.8	7 580.1	7 412.3	14 807.8	613.3	6 323.3	1 793.2	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	388.9	3 479.1	323.2	673.8	2 752.5	7 023.5	7 185.5	14 198.3	480.0	5 830.1	1 559.1	(NA)	(NA)
1967 Census.	1 424	1 674	785	364.9	2 890.7	300.3	609.0	2 244.4	5 712.0	5 943.1	11 623.8	572.0	5 518.6	1 468.5	90	88
INDUSTRY 3715, TRUCK TRAILERS																
1977 Census.	316	353	165	28.1	322.0	22.5	43.1	229.9	645.9	1 285.3	1 910.1	36.2	(NA)	355.0	94	96
1976 ASM....	(NA)	(NA)	(NA)	21.4	234.4	16.4	31.0	158.3	487.6	816.5	1 297.3	14.5	251.1	239.0	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	18.6	187.2	13.9	25.6	120.8	356.1	536.0	921.6	32.6	272.9	234.1	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	30.4	276.0	24.2	45.1	197.5	568.5	1 087.3	1 636.9	29.7	255.2	308.6	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	29.9	249.7	23.9	46.0	182.7	506.1	865.2	1 369.5	28.0	227.2	260.2	(NA)	(NA)
1972 Census.	215	255	139	24.7	205.6	19.7	37.8	149.1	449.3	684.8	1 117.9	14.6	208.3	190.9	96	94
1971 ASM....	(NA)	(NA)	(NA)	21.2	161.7	16.4	31.7	115.3	287.8	500.6	787.2	20.1	192.8	143.8	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	22.7	162.4	17.4	33.7	114.3	283.0	491.9	776.9	19.7	194.3	133.9	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	27.4	189.0	21.9	42.7	140.0	353.7	621.5	961.9	21.1	172.6	161.6	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	25.1	167.1	20.2	39.4	124.2	284.3	531.8	803.8	15.6	150.6	155.4	(NA)	(NA)
1967 Census.	147	179	108	22.9	147.1	18.3	35.5	105.1	268.8	445.8	713.9	22.3	143.4	129.7	94	91
1966 ASM....	(NA)	(NA)	(NA)	28.1	175.2	22.9	44.9	129.3	314.4	487.9	795.6	25.5	(NA)	139.7	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	24.1	150.1	19.5	39.6	111.3	268.4	425.6	690.4	7.6	(NA)	124.6	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	21.8	129.4	17.3	34.4	94.7	231.4	360.1	588.4	13.8	107.6	99.2	(NA)	(NA)
1963 Census.	175	197	105	19.4	112.9	15.5	30.9	81.7	205.5	309.5	515.7	5.3	95.8	82.1	92	93
INDUSTRY 3716, MOTOR HOMES[3]																
1977 Census.	79	116	114	19.2	205.4	15.4	29.6	135.1	443.3	1 132.5	1 564.5	16.4	(NA)	220.6	92	94

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1] In Annual Survey of Manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2] For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3] Industry was defined after 1963 Census of Manufactures, so data are available only for years shown.

[4] Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5] Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6] Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7] Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8] Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3711, MOTOR VEHICLES AND CAR BODIES										
1977 Census..	20 598	(NA)	84	2 140	9.22	75	85	(NA)	54 492	37	30.18
1976 ASM.....	18 120	20 866	84	2 044	8.45	75	84	10	48 855	37	28.30
1975 ASM.....	15 362	22 420	83	1 901	7.61	76	86	13	36 959	41	23.35
1974 ASM.....	14 368	19 775	81	1 963	6.93	75	86	14	33 883	42	21.07
1973 ASM.....	13 955	14 885	83	2 126	6.23	73	83	10	37 055	37	20.78
1972 Census..	12 675	15 985	83	2 070	5.79	72	82	12	34 736	36	20.04
1971 ASM.....	11 414	14 700	83	2 025	5.36	71	81	12	34 160	33	20.33
1970 ASM.....	9 937	15 600	80	1 943	4.82	74	85	17	24 077	41	15.42
1969 ASM.....	9 573	(NA)	84	2 004	4.67	72	82	(NA)	26 619	36	15.89
1968 ASM.....	9 981	(NA)	82	2 250	4.29	72	82	(NA)	28 703	35	15.59
1967 Census..	8 406	(NA)	82	1 999	4.00	73	83	(NA)	22 894	37	14.02
	INDUSTRY 3713, TRUCK AND BUS BODIES										
1977 Census..	12 327	(NA)	78	1 965	5.71	53	75	(NA)	27 218	45	17.56
	INDUSTRY 3714, MOTOR VEHICLE PARTS, ACCESSORIES										
1977 Census..	17 759	(NA)	82	2 086	8.08	55	77	(NA)	36 086	49	20.92
1976 ASM.....	15 740	24 672	82	2 055	7.26	54	76	34	33 437	47	19.61
1975 ASM.....	13 708	27 289	81	1 959	6.58	54	76	44	27 586	49	17.30
1974 ASM.....	12 796	22 668	82	2 005	6.02	53	78	42	24 993	51	15.16
1973 ASM.....	12 365	18 093	83	2 108	5.56	52	77	37	23 961	51	13.60
1972 Census..	11 477	19 601	82	2 094	5.20	50	75	42	22 860	50	13.16
1971 ASM.....	10 417	(NA)	83	2 014	4.88	50	74	23	21 361	49	12.84
1970 ASM.....	9 415	(NA)	81	2 028	4.36	51	77	19	18 026	52	10.95
1969 ASM.....	9 161	(NA)	83	2 075	4.18	50	72	23	18 711	49	10.83
1968 ASM.....	8 946	(NA)	83	2 147	3.97	51	75	24	18 059	50	10.12
1967 Census..	7 921	(NA)	82	2 028	3.69	51	76	(NA)	15 654	51	9.38
	INDUSTRY 3715, TRUCK TRAILERS										
1977 Census..	11 471	(NA)	80	1 913	5.33	67	84	(NA)	23 011	49	14.99
1976 ASM.....	10 953	11 733	76	1 890	5.10	62	81	19	22 785	48	15.72
1975 ASM.....	10 064	14 672	74	1 841	4.71	58	78	29	19 145	52	13.91
1974 ASM.....	9 078	8 394	79	1 863	4.37	66	83	15	18 700	48	12.60
1973 ASM.....	8 351	7 598	79	1 924	3.97	63	81	16	16 926	49	11.00
1972 Census..	8 323	8 433	79	1 918	3.94	61	79	18	18 190	45	11.88
1971 ASM.....	7 627	9 094	77	1 932	3.63	63	84	24	13 575	56	9.07
1970 ASM.....	7 154	8 559	76	1 936	3.39	63	84	25	12 466	57	8.39
1969 ASM.....	6 897	6 299	79	1 949	3.27	64	84	17	12 908	53	8.28
1968 ASM.....	6 657	6 000	80	1 950	3.15	66	86	18	11 326	58	7.21
1967 Census..	6 423	6 262	79	1 939	2.96	62	83	20	11 737	54	7.57
1966 ASM.....	6 234	(NA)	81	1 960	2.87	61	83	(NA)	11 188	55	7.00
1965 ASM.....	6 228	(NA)	80	2 030	2.81	61	83	(NA)	11 136	55	6.77
1964 ASM.....	5 935	4 935	79	1 988	2.75	61	83	18	10 614	55	6.72
1963 Census..	5 819	4 938	79	1 993	2.64	60	81	18	10 592	54	6.65
	INDUSTRY 3716, MOTOR HOMES										
1977 Census..	10 694	(NA)	79	1 927	4.56	72	85	(NA)	23 079	46	14.97

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 1c. Composition of New (1977) Industry Based on Old (1972) Standard Industrial Classification

(Under "Composition of new industry," rows of data for "New industries" are for industries as now composed and row of data for "Old industry" is for industry as it would have been if industry definition had not been changed. Under "Totals for industries on old SIC," data are for industries before revision and reflect amounts classified in specified new industry as well as in other new industries. The data in first five columns show that portion of "Old industry" that was moved to "New industry")

Industry	Composition of new industry--1977 data					Total for industries on old SIC--1977 data				
	Establishments		All employees (1,000)	Value added by manufacture (million dollars)	Value of shipments (million dollars)	Establishments		All employees (1,000)	Value added by manufacture (million dollars)	Value of shipments (million dollars)
	Total (number)	With 20 employees or more (number)				Total (number)	With 20 employees or more (number)			
Old industry 3713--Truck and bus bodies	820	313	34.8	946.3	2,003.3	936	427	54.0	1,389.6	3,567.8
New industry 3716--Motor homes produced on purchased chassis.....	116	114	19.2	443.3	1,564.5	(X)	(X)	(X)	(X)	(X)

(X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3711, MOTOR VEHICLES AND CAR BODIES														
United States	-	322	119	343.8	7 077.6	289.9	620.4	5 724.9	18 723.7	58 131.6	76 517.8	1 706.1	339.2	11 782.5
New England Division:														
Massachusetts	-	10	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York	-	17	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
New Jersey	-	6	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Pennsylvania	-	12	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East North Central Division:														
Ohio	-	22	9	33.1	659.6	28.1	59.6	540.6	1 519.5	5 180.5	6 690.4	74.4	33.0	940.8
Indiana	-	14	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Illinois	-	11	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Michigan	-	33	21	141.5	3 061.7	119.0	258.6	2 462.2	7 198.6	21 335.9	28 402.3	(D)	145.8	4 475.4
Wisconsin	-	16	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central Division:														
Minnesota	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Missouri	-	12	7	31.0	645.4	27.3	59.3	543.7	2 190.1	5 867.6	8 012.5	(D)	FF	(D)
North Dakota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Kansas	-	7	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
Delaware	-	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Maryland	-	2	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Virginia	-	3	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia	-	6	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East South Central Division:														
Kentucky	-	3	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Tennessee	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Texas	-	15	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Mountain Division:														
New Mexico	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	5	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Oregon	-	6	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
California	-	54	16	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
INDUSTRY 3713, TRUCK AND BUS BODIES														
United States	E1	820	313	34.8	428.6	27.4	53.9	307.6	946.3	1 076.2	2 003.3	44.2	(NA)	(NA)
New England Division:														
Massachusetts	-	19	10	0.4	6.2	0.4	0.7	4.1	10.6	13.5	23.9	0.1	(NA)	(NA)
Rhode Island	-	6	4	0.2	2.6	0.2	0.4	1.8	4.4	6.6	11.1	0.1	(NA)	(NA)
Middle Atlantic Division:														
New York	E2	39	18	1.2	12.4	0.9	1.7	7.9	19.7	29.8	49.4	0.5	(NA)	(NA)
New Jersey	E6	25	5	0.3	3.0	0.2	0.4	2.2	5.8	8.4	14.3	0.2	(NA)	(NA)
Pennsylvania	-	52	23	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	51	25	5.9	100.4	4.8	10.0	79.4	342.1	266.6	608.6	(D)	(NA)	(NA)
Indiana	E1	47	20	3.8	47.3	3.1	5.5	35.8	89.3	107.2	193.4	3.6	(NA)	(NA)
Illinois	-	30	15	1.5	19.0	1.2	2.2	12.4	33.6	41.5	75.2	1.2	(NA)	(NA)
Michigan	E1	28	12	1.4	14.1	1.1	2.0	9.2	30.8	32.6	61.1	2.2	(NA)	(NA)
Wisconsin	-	22	11	1.2	15.2	0.9	1.8	10.7	29.7	41.2	69.6	1.2	(NA)	(NA)
West North Central Division:														
Minnesota	E2	24	7	0.3	4.3	0.2	0.5	2.7	6.9	10.0	17.1	0.2	(NA)	(NA)
Iowa	-	17	11	0.9	10.0	0.7	1.4	6.5	10.1	34.0	44.9	(D)	(NA)	(NA)
Missouri	-	26	13	1.4	15.4	1.0	1.9	9.9	37.6	46.9	83.2	1.0	(NA)	(NA)
Kansas	-	14	3	0.3	3.0	0.2	0.3	1.6	4.4	7.6	12.0	0.1	(NA)	(NA)
South Atlantic Division:														
Maryland	E6	14	3	0.3	3.3	0.2	0.4	2.2	6.7	7.3	13.9	(D)	(NA)	(NA)
Virginia	-	15	8	0.8	8.7	0.6	1.1	5.3	15.2	24.2	39.2	0.4	(NA)	(NA)
North Carolina	-	27	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	E5	17	3	0.3	2.9	0.2	0.4	1.9	4.4	9.2	13.5	(D)	(NA)	(NA)
Florida	E2	25	8	0.4	4.5	0.3	0.6	2.7	11.1	11.6	22.5	1.0	(NA)	(NA)
East South Central Division:														
Kentucky	E1	15	5	0.4	4.3	0.3	0.6	3.0	7.7	12.0	19.6	0.3	(NA)	(NA)
Tennessee	-	18	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	16	6	0.8	8.9	0.6	1.2	6.2	23.4	28.8	51.4	(D)	(NA)	(NA)
Mississippi	-	9	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	E1	7	3	0.7	6.8	0.7	1.1	5.6	8.0	18.4	25.7	(D)	(NA)	(NA)
Oklahoma	E4	16	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	-	34	16	1.3	13.3	1.0	2.0	9.1	26.7	27.4	54.5	1.9	(NA)	(NA)
Pacific Division:														
Washington	E1	10	2	0.2	2.5	0.1	0.2	1.6	4.1	5.6	9.5	(Z)	(NA)	(NA)
Oregon	E3	16	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	E2	106	40	2.8	31.1	2.3	4.4	22.2	55.6	72.8	125.9	3.3	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3714, MOTOR VEHICLE PARTS AND ACCESSORIES													
United States	-	**2 623**	**997**	**450.7**	**8 004.0**	**372.5**	**777.2**	**6 284.9**	**16 263.8**	**19 749.7**	**35 750.8**	**1 842.2**	**400.9**	**9 164.7**
New England Division:														
New Hampshire	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Massachusetts	-	36	11	1.5	18.8	1.2	2.3	13.2	35.5	34.8	69.5	1.9	EE	(D)
Rhode Island	-	5	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	-	23	13	5.3	62.9	4.1	8.0	45.6	161.1	135.7	295.8	(D)	EE	(D)
Middle Atlantic Division:														
New York	-	125	32	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
New Jersey	-	63	19	2.1	28.1	1.3	2.6	14.1	55.7	63.4	118.6	2.2	3.1	42.6
Pennsylvania	-	95	29	8.8	146.9	7.4	15.4	117.9	297.7	318.9	612.7	10.7	8.2	176.5
East North Central Division:														
Ohio	-	188	107	81.8	1 646.0	66.9	144.0	1 298.7	3 309.7	3 881.9	7 124.3	355.6	80.0	1 882.7
Indiana	-	134	76	49.2	865.5	40.6	82.4	687.4	1 571.8	1 929.8	3 473.2	276.5	48.3	1 018.0
Illinois	-	127	58	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Michigan	-	341	187	162.4	3 363.7	136.7	293.4	2 691.3	6 259.8	8 333.4	14 543.8	792.1	149.2	3 802.2
Wisconsin	-	44	20	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central Division:														
Minnesota	-	40	15	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Iowa	-	34	12	2.0	22.4	1.6	3.0	16.2	78.4	68.0	146.0	(D)	EE	(D)
Missouri	-	54	27	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.0	112.7
Nebraska	-	10	5	2.0	20.0	1.7	3.6	15.8	65.2	44.8	105.3	(D)	EE	(D)
Kansas	-	27	11	1.7	15.6	1.3	2.5	10.3	39.2	38.8	77.4	1.7	1.3	18.4
South Atlantic Division:														
Delaware	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Maryland	-	14	6	0.7	7.9	0.6	1.1	5.8	15.4	20.4	34.0	0.4	0.6	8.5
Virginia	-	25	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West Virginia	-	5	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
North Carolina	-	40	18	6.4	66.9	5.1	10.3	50.7	204.7	173.1	367.9	12.8	3.9	89.3
South Carolina	-	9	5	2.3	21.0	2.0	4.1	14.1	49.7	38.9	86.9	(D)	EE	(D)
Georgia	-	50	16	2.7	26.3	2.4	4.9	21.0	58.1	81.6	136.6	3.9	2.6	55.0
Florida	E3	80	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	18.7
East South Central Division:														
Kentucky	-	26	15	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Tennessee	-	57	32	12.9	137.8	10.7	21.3	107.1	370.4	327.5	695.7	24.5	10.2	199.2
Alabama	-	31	15	3.5	45.0	2.9	6.2	32.9	95.8	135.0	225.5	(D)	1.7	22.2
Mississippi	-	18	10	3.2	43.9	2.8	5.3	35.5	145.2	71.1	211.1	18.0	CC	(D)
West South Central Division:														
Arkansas	-	26	9	2.4	23.6	2.1	4.3	19.5	71.7	69.4	137.8	(D)	2.1	41.1
Louisiana	E1	14	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Oklahoma	-	51	18	3.6	40.2	2.9	5.4	26.1	122.3	90.8	208.0	3.6	EE	(D)
Texas	E2	148	35	3.7	38.7	2.7	5.5	25.4	87.2	108.3	191.6	5.1	3.1	48.9
Mountain Division:														
Colorado	E1	33	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Arizona	E3	23	3	0.3	2.5	0.3	0.5	2.0	4.6	5.0	9.5	(D)	0.2	2.9
Utah	-	17	5	0.5	5.0	0.4	0.8	4.0	32.6	19.2	48.9	(D)	0.2	12.9
Pacific Division:														
Washington	E1	34	7	0.5	7.2	0.4	0.8	5.2	14.2	14.7	28.6	0.4	BB	(D)
Oregon	-	47	11	1.7	22.6	1.4	2.3	16.4	44.1	70.3	113.3	(D)	1.2	27.9
California	E1	486	131	14.6	161.5	11.4	21.8	111.8	395.1	484.6	870.2	30.4	10.5	197.6
INDUSTRY 3715, TRUCK TRAILERS														
United States	-	**353**	**165**	**28.1**	**322.0**	**22.5**	**43.1**	**229.9**	**645.9**	**1 285.3**	**1 910.1**	**36.2**	**24.7**	**449.3**
Middle Atlantic Division:														
New York	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	-	6	3	0.6	4.3	0.4	0.8	3.2	11.5	23.1	32.8	0.1	0.2	4.9
Pennsylvania	-	25	20	4.1	50.7	3.2	6.6	37.3	87.7	229.4	316.1	2.9	FF	(D)
East North Central Division:														
Ohio	-	11	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	10.7
Indiana	-	10	7	1.5	18.0	1.2	2.4	13.4	37.2	80.2	117.3	(D)	EE	(D)
Illinois	-	11	6	1.1	10.7	0.8	1.6	7.6	24.2	60.0	81.9	(D)	CC	(D)
Michigan	E1	9	3	0.6	7.5	0.5	0.8	5.8	14.2	14.3	27.7	0.2	0.4	5.4
Wisconsin	-	8	6	1.3	19.7	0.9	1.8	12.4	37.6	51.4	89.4	0.5	AA	(D)
West North Central Division:														
Minnesota	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Iowa	-	10	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Missouri	-	9	3	0.6	6.1	0.4	0.6	3.6	11.2	15.0	23.6	0.3	BB	(D)
South Dakota	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nebraska	-	6	3	0.8	9.8	0.7	1.1	7.3	17.9	22.6	40.1	(D)	CC	(D)
Kansas	-	9	5	0.4	4.1	0.3	0.7	2.9	8.4	9.6	17.7	0.2	(NA)	(NA)
South Atlantic Division:														
Virginia	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
North Carolina	-	5	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Georgia	-	7	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	20.0
Florida	-	8	4	0.4	4.1	0.3	0.6	2.7	8.3	15.5	23.8	0.2	0.4	4.1
East South Central Division:														
Kentucky	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	9	6	1.0	10.4	0.8	1.6	7.4	18.1	42.3	60.2	2.8	0.8	12.5
Alabama	-	10	5	1.4	16.0	1.1	2.2	11.6	26.6	65.0	90.9	0.5	EE	(D)
Mississippi	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3715, TRUCK TRAILERS—Con.														
West South Central Division:														
Arkansas	E6	14	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	-	8	4	0.6	5.8	0.5	0.9	3.7	11.0	16.9	27.6	0.4	BB	(D)
Oklahoma	E1	29	12	0.9	8.5	0.7	1.4	6.1	19.8	25.8	45.6	(D)	CC	(D)
Texas	-	39	19	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Mountain Division:														
Colorado	-	10	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Utah	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	10	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Oregon	E1	12	4	0.5	7.6	0.4	0.7	4.9	15.5	16.4	32.3	0.4	CC	(D)
California	-	37	14	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.0	31.2
INDUSTRY 3716, MOTOR HOMES PRODUCED ON PURCHASED CHASSIS														
United States	-	**116**	**114**	**19.2**	**205.4**	**15.4**	**29.8**	**135.1**	**443.3**	**1 132.5**	**1 564.5**	**16.4**	**(NA)**	**(NA)**
Middle Atlantic Division:														
Pennsylvania	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Indiana	-	29	29	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Michigan	-	12	12	1.4	17.3	1.2	2.3	12.1	36.7	86.4	123.8	0.6	(NA)	(NA)
West North Central Division:														
Iowa	-	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	-	5	5	0.6	5.2	0.5	1.1	3.8	8.2	39.2	46.4	(D)	(NA)	(NA)
South Atlantic Division:														
Georgia	-	4	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	6	6	0.7	6.7	0.6	1.1	4.0	11.4	41.5	52.1	0.4	(NA)	(NA)
Mountain Division:														
Idaho	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	-	35	34	5.8	56.6	4.9	9.4	39.9	138.3	295.2	435.6	6.3	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Motor vehicles and car bodies (SIC 3711)	Truck and bus bodies (SIC 3713)	Motor vehicle parts and accessories (SIC 3714)	Truck trailers (SIC 3715)	Motor homes (SIC 3716)
Primary product specialization ratio[1]	percent	95	94	94	94	92
Coverage ratio[2]	do	99	93	87	96	94
All establishments	number	322	820	2 623	353	116
With 1 to 19 employees	do	203	507	1 626	188	2
With 20 to 99 employees	do	27	241	481	95	52
With 100 employees or more	do	92	72	516	70	52
All employees, average for year	1,000	343.6	34.8	450.7	28.1	19.2
Payroll for year, all employees	mil. dol.	7 077.6	428.6	8 004.0	322.0	205.4
Production workers:						
Average for year	1,000	289.9	27.4	372.5	22.5	15.4
March	do	291.9	26.3	364.2	21.3	18.4
May	do	300.5	27.9	371.1	22.2	16.4
August	do	254.8	27.7	365.1	23.0	13.0
November	do	312.4	27.6	389.1	23.6	13.6
Hours	millions	620.4	53.9	777.2	43.1	29.6
January to March	do	148.0	12.6	185.7	9.8	8.3
April to June	do	163.5	13.9	199.0	11.0	8.1
July to September	do	149.5	13.8	196.5	10.8	6.7
October to December	do	159.4	13.5	196.1	11.5	6.5
Wages	mil. dol.	5 724.9	307.6	6 284.9	229.9	135.1
Cost of materials, etc.	do	58 131.6	1 076.2	19 749.7	1 285.3	1 132.5
Materials, parts, containers, etc., consumed	do	57 415.1	989.2	18 906.5	1 241.0	1 102.7
Resales	do	317.5	53.6	245.7	26.6	19.2
Fuels consumed	do	179.5	9.2	193.3	4.5	3.1
Purchased electric energy	do	204.8	11.0	297.2	7.7	3.6
Contract work	do	14.7	13.2	106.9	5.5	3.9
Value of shipments, including resales	do	76 517.8	2 003.3	35 750.8	1 910.1	1 564.5
Value of resales	do	308.8	67.8	309.7	37.8	25.9
Value added by manufacture	do	18 723.7	946.3	16 263.8	645.9	443.3
Manufacturers' inventories:						
Beginning of year	do	3 325.8	306.0	3 699.6	283.0	212.5
Finished products	do	312.3	48.5	846.1	44.3	69.4
Work in process	do	1 206.8	108.2	1 626.9	55.4	34.9
Materials, supplies, fuel, etc.	do	1 806.6	149.3	1 226.5	183.4	108.2
End of year	do	4 010.8	352.1	4 124.1	355.0	220.6
Finished products	do	373.8	56.0	889.7	55.7	87.1
Work in process	do	1 482.9	120.0	1 845.9	65.1	28.5
Materials, supplies, fuel, etc.	do	2 154.1	176.2	1 388.4	234.2	105.1
Capital expenditures for plant and equipment	do	1 712.8	45.7	1 900.5	38.9	20.0
New capital expenditures	do	1 706.1	44.2	1 842.2	36.2	16.4
New buildings and other structures	do	229.1	11.2	192.8	15.8	8.9
New machinery and equipment	do	1 477.1	33.0	1 649.3	20.3	7.5
Used capital expenditures	do	6.7	1.4	58.3	2.8	3.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Motor vehicles and car bodies (SIC 3711)		Truck and bus bodies (SIC 3713)		Motor vehicle parts and accessories (SIC 3714)		Truck trailers (SIC 3715)		Motor homes (SIC 3716)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	19.0	1	(1.7)	29	44.3	3	(1.8)	17	0.9	6
Response coverage ratio[2] (percent)	89	(X)	69	(X)	59	(X)	71	(X)	51	(X)
Machinery	94.7	1	(5.1)	36	319.7	3	6.0	13	2.0	8
Response coverage ratio[2] (percent)	85	(X)	77	(X)	45	(X)	74	(X)	61	(X)
Cost of purchased communication services	23.4	1	(4.4)	20	33.9	4	(3.3)	19	3.7	13
Response coverage ratio[2] (percent)	49	(X)	74	(X)	59	(X)	68	(X)	71	(X)
Rental payments	58.7	1	9.4	14	82.3	4	6.3	9	(2.1)	52
Buildings and other structures	9.8	3	(6.0)	19	28.4	9	(2.6)	16	(1.4)	55
Machinery and equipment	48.8	1	(3.4)	20	53.9	2	3.7	5	(0.7)	59
Supplemental labor costs	2,266.7	1	80.0	3	2,242.6	1	59.3	3	30.6	4
Legal costs	548.1	1	34.8	3	644.8	1	32.9	3	19.8	6
Voluntary costs	1,718.6	1	45.2	4	1,597.7	1	26.4	4	10.9	8
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	2,177.4	1	131.2	10	2,249.6	1	109.0	5	(58.8)	20
New capital expenditures	228.1	1	(12.7)	17	189.7	3	15.5	6	8.3	12
Used capital expenditures	0.1	1	(0.5)	20	6.2	6	(0.3)	46	3.3	13
Retirements	42.3	1	(2.8)	35	15.6	3	1.5	14	(1.7)	16
End of year	2,363.2	1	141.7	9	2,430.0	1	123.3	4	(68.8)	16
Machinery and equipment:										
Beginning of year	4,555.4	1	209.8	5	8,117.5	1	162.0	4	(47.3)	32
New capital expenditures	1,475.1	1	34.5	8	1,658.6	1	21.4	10	(5.8)	30
Automobiles, trucks, etc., for highway use[3]	1,440.6	1	(2.2)	(A)	(1,648.1)	1	(1.9)	(A)	(5.5)	(A)
Computers and peripheral data processing equipment[3]			(0.4)	(A)			(1.3)	(A)		
All other[3]			(29.4)	68			(17.5)	(A)		
New machinery and equipment, n.s.k.[4]	(34.6)	58	(2.6)	(A)	(10.5)	(A)	0.7	(A)	0.3	(A)
Used capital expenditures	6.5	1	(1.9)	49	53.1	5	1.8	6	(D)	10
Retirements	828.1	1	(15.6)	29	632.4	2	8.4	11	(D)	99
End of year	5,208.9	1	230.5	4	9,196.7	1	176.8	3	(51.4)	29
Total gross value of depreciable assets:										
Beginning of year	6,732.8	1	341.1	5	10,367.2	1	271.0	4	(106.1)	16
New capital expenditures	1,703.4	1	47.2	9	1,848.3	1	36.9	7	14.1	11
Used capital expenditures	6.6	1	(2.4)	38	59.3	4	2.1	9	3.6	12
Retirements	870.4	1	(18.5)	26	648.1	2	9.9	10	(3.7)	61
End of year	7,572.2	1	372.3	5	11,626.7	1	300.1	3	120.2	14
Depreciation charges during 1977	399.9	1	23.6	5	738.4	1	19.2	4	(7.6)	33
Buildings and other structures	72.7	1	5.6	10	78.1	1	5.0	14	(2.6)	17
Machinery and equipment	327.2	1	18.0	4	660.3	1	14.1	3	(5.0)	41

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3711, MOTOR VEHICLES AND CAR BODIES												
Total	-	**322**	**343.6**	**7 077.6**	**289.9**	**620.4**	**5 724.9**	**18 723.7**	**58 131.6**	**76 517.8**	**1 706.1**	**4 010.8**
Establishments with an average of—												
1 to 4 employees	E9	143	0.2	3.2	0.2	0.3	2.6	3.7	10.9	14.6	0.4	1.0
5 to 9 employees	E9	38	0.3	4.8	0.2	0.5	3.8	4.8	13.7	18.4	0.5	1.3
10 to 19 employees	E8	22	0.3	4.8	0.2	0.5	3.9	5.7	16.2	21.9	0.6	1.5
20 to 49 employees	E2	17	0.5	8.0	0.4	0.9	6.3	10.3	27.7	37.8	0.9	4.0
50 to 99 employees	E2	10	0.7	9.9	0.6	1.3	7.8	18.6	19.8	38.9	1 703.7	8.4
100 to 249 employees	-	8	1.3	20.6	0.8	1.8	9.8	20.7	117.7	135.6	(D)	42.8
250 to 499 employees	-	10	3.9	47.7	2.6	4.7	29.8	84.3	196.5	275.1	(D)	74.8
500 to 999 employees	-	8	6.3	83.6	4.8	8.8	59.2	205.4	671.8	860.9	(D)	179.3
1,000 to 2,499 employees	-	14	25.6	459.6	19.8	39.7	344.6	1 414.5	4 473.9	5 876.8	(D)	429.7
2,500 employees or more	-	52	304.6	6 435.4	260.2	562.1	5 257.0	16 955.6	52 583.3	69 237.8	(D)	3 268.0
Covered by administrative records[2]	E9	167	0.6	11.0	0.5	1.0	8.8	11.7	34.9	46.7	1.2	3.3
INDUSTRY 3713, TRUCK AND BUS BODIES												
Total	-	**820**	**34.8**	**428.6**	**27.4**	**53.9**	**307.6**	**946.3**	**1 076.2**	**2 003.3**	**44.2**	**352.1**
Establishments with an average of—												
1 to 4 employees	E8	242	0.4	4.8	0.4	0.7	3.3	8.4	13.9	22.9	0.3	4.4
5 to 9 employees	E8	121	0.8	9.2	0.6	1.2	6.1	16.7	26.6	43.2	0.6	8.0
10 to 19 employees	E5	144	2.0	22.6	1.5	3.0	15.0	37.4	54.2	91.8	1.2	16.6
20 to 49 employees	E1	157	4.9	56.5	3.8	7.4	38.2	103.4	149.3	250.7	5.5	47.0
50 to 99 employees	-	84	5.9	68.0	4.5	8.8	44.7	117.8	174.9	289.4	4.7	61.2
100 to 249 employees	-	48	7.3	79.5	5.7	10.6	54.3	154.5	215.5	361.2	7.3	91.8
250 to 499 employees	-	15	4.8	57.9	3.7	7.4	41.4	112.2	127.0	239.0	6.4	53.2
500 to 999 employees	-	6	4.3	49.2	3.4	6.2	37.0	82.2	116.9	195.8	3.4	41.2
1,000 to 2,499 employees	-	3	4.3	80.8	3.7	8.6	67.7	313.6	197.9	509.3	14.7	28.7
Covered by administrative records[2]	E9	375	2.1	23.0	1.7	3.3	15.7	40.5	62.7	103.2	1.5	20.2
INDUSTRY 3714, MOTOR VEHICLE PARTS AND ACCESSORIES												
Total	-	**2 623**	**450.7**	**8 004.0**	**372.5**	**777.2**	**6 284.9**	**16 263.8**	**19 749.7**	**35 750.8**	**1 842.2**	**4 124.1**
Establishments with an average of—												
1 to 4 employees	E8	1 023	1.7	25.8	1.6	2.8	20.2	50.0	63.4	114.4	4.4	14.4
5 to 9 employees	E7	340	2.3	34.3	2.0	3.8	26.6	65.9	79.1	145.0	5.1	18.7
10 to 19 employees	E4	263	3.5	49.1	2.8	5.6	36.5	101.9	119.0	220.7	10.6	31.9
20 to 49 employees	-	291	9.1	110.9	7.2	14.3	75.0	229.8	278.0	504.4	36.9	73.3
50 to 99 employees	-	190	13.4	160.0	10.6	21.0	109.3	367.7	431.3	782.2	33.3	126.4
100 to 249 employees	-	197	31.3	350.3	24.4	47.2	239.9	882.9	1 032.3	1 899.0	45.4	281.2
250 to 499 employees	-	159	56.5	663.6	46.6	92.0	500.1	1 669.0	1 911.4	3 545.8	77.3	556.9
500 to 999 employees	-	73	49.6	663.4	38.8	78.7	480.5	1 513.2	1 509.2	2 983.2	100.4	501.9
1,000 to 2,499 employees	-	46	65.3	1 138.7	53.2	108.4	880.5	2 819.5	2 830.5	5 604.2	287.6	682.7
2,500 employees or more	-	41	218.0	4 808.0	185.3	403.4	3 916.3	8 563.8	11 495.6	19 951.9	1 241.2	1 836.4
Covered by administrative records[2]	E0	1 186	4.7	73.9	4.2	7.9	58.1	141.4	168.2	309.7	10.2	38.7
INDUSTRY 3715, TRUCK TRAILERS												
Total	-	**353**	**28.1**	**322.0**	**22.5**	**43.1**	**229.9**	**645.9**	**1 285.3**	**1 910.1**	**36.2**	**355.0**
Establishments with an average of—												
1 to 4 employees	E7	96	0.1	1.7	0.1	0.2	1.1	3.4	6.1	9.5	0.1	1.6
5 to 9 employees	E8	40	0.3	3.1	0.2	0.4	2.0	6.4	10.3	16.4	0.3	3.1
10 to 19 employees	E5	52	0.7	8.2	0.6	1.1	5.8	15.6	25.9	40.7	0.6	8.1
20 to 49 employees	E1	57	1.8	21.6	1.4	2.7	14.6	40.4	63.1	103.3	1.6	17.8
50 to 99 employees	-	38	2.7	30.8	2.2	4.2	21.3	55.7	104.9	161.5	1.8	29.0
100 to 249 employees	-	32	4.8	55.3	4.0	7.4	39.5	113.0	184.1	297.0	5.6	50.3
250 to 499 employees	-	28	10.0	108.0	8.2	15.3	77.4	243.4	504.5	728.8	20.1	149.9
500 to 999 employees	-	9	(7.6)	(93.4)	(5.9)	(11.8)	(68.1)	(168.1)	(386.4)	(552.7)	(6.0)	(95.2)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	144	0.8	8.9	0.6	1.2	6.0	16.7	28.9	45.6	0.5	8.4
INDUSTRY 3716, MOTOR HOMES PRODUCED ON PURCHASED CHASSIS												
Total	-	**116**	**19.2**	**205.4**	**15.4**	**29.6**	**135.1**	**443.3**	**1 132.5**	**1 564.5**	**16.4**	**220.6**
Establishments with an average of—												
10 to 19 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	19	(0.8)	(8.4)	(0.6)	(1.2)	(5.4)	(20.1)	(40.6)	(61.4)	(0.4)	(7.5)
50 to 99 employees	-	43	3.1	34.3	2.5	4.7	22.3	69.4	182.6	252.6	2.3	30.4
100 to 249 employees	-	39	6.0	65.9	4.9	8.9	44.8	166.7	376.2	542.2	4.8	64.9
250 to 499 employees	-	8	3.0	31.6	2.5	5.2	23.5	59.8	187.9	248.1	1.6	27.5
500 to 999 employees	-	4	(6.3)	(65.3)	(4.9)	(9.6)	(39.1)	(127.3)	(345.1)	(460.2)	(7.3)	(90.3)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3711	**Motor vehicles and car bodies:**										
	Entire industry	322	343.6	7 077.6	289.9	620.4	5 724.9	18 723.7	58 131.6	76 517.8	1 706.1
	Establishments with 75 percent specialization or more	304	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37111	Passenger cars and car chassis:										
	Establishments with this product class primary	47	218.9	4 717.0	187.2	410.4	3 855.1	12 323.9	41 824.9	53 916.2	(D)
	Establishments with 75 percent specialization or more in class	36	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37112	Trucks, truck tractors, and truck chassis:										
	Establishments with this product class primary	41	92.6	1 770.1	76.1	155.4	1 392.4	5 231.5	13 588.6	18 745.0	231.0
	Establishments with 75 percent specialization or more in class	37	76.9	1 418.3	62.6	124.5	1 102.1	4 259.1	10 589.5	14 787.6	(D)
37113	Buses:										
	Establishments with this product class primary	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37114	Military vehicles (tactical):										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37115	Passenger car bodies:										
	Establishments with this product class primary	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3713	**Truck and bus bodies:**										
	Entire industry	820	34.8	428.6	27.4	53.9	307.6	946.3	1 076.2	2 003.3	44.2
	Establishments with 75 percent specialization or more	768	30.3	377.1	23.9	46.1	269.8	857.6	946.1	1 787.2	37.6
37131	Truck, bus, and other vehicle bodies:										
	Establishments with this product class primary	233	24.2	308.0	19.3	38.4	226.8	723.5	738.9	1 447.7	34.0
	Establishments with 75 percent specialization or more in class	188	18.5	239.4	14.9	28.8	176.4	607.6	574.3	1 173.3	26.8
37132	Motor vehicles (complete) purchased chassis:										
	Establishments with this product class primary	81	5.7	66.8	4.2	8.1	44.1	126.9	192.9	315.7	5.5
	Establishments with 75 percent specialization or more in class	66	4.8	56.9	3.5	6.9	37.9	110.5	163.5	269.9	4.6
3714	**Motor vehicle parts and accessories:**										
	Entire industry	2 623	450.7	8 004.0	372.5	777.2	6 284.9	16 263.8	19 749.7	35 750.8	1 842.2
	Establishments with 75 percent specialization or more	2 506	391.3	6 943.0	325.3	677.8	5 476.2	14 271.7	17 567.9	31 623.8	1 628.5
37141	New motor vehicle parts and accessories:										
	Establishments with this product class primary	902	426.5	7 716.3	352.7	738.3	6 080.3	15 710.3	19 161.0	34 622.2	1 804.3
	Establishments with 75 percent specialization or more in class	803	369.4	6 671.1	307.1	642.0	5 279.7	13 703.7	16 980.2	30 481.6	1 595.8
37143	Rebuilt motor vehicle parts and accessories:										
	Establishments with this product class primary	181	16.2	170.3	12.8	25.5	112.7	330.5	323.5	639.7	15.3
	Establishments with 75 percent specialization or more in class	168	12.0	132.0	9.5	19.0	89.1	262.2	255.8	510.5	(D)
3715	**Truck trailers:**										
	Entire industry	353	28.1	322.0	22.5	43.1	229.9	645.9	1 285.3	1 910.1	36.2
	Establishments with 75 percent specialization or more	323	24.9	282.8	20.2	38.6	202.5	568.3	1 175.5	1 723.3	34.8
37151	Truck trailers with axle ratings of 10,000 lb or more:										
	Establishments with this product class primary	141	25.6	296.7	20.6	39.5	212.5	598.1	1 209.7	1 786.4	34.5
	Establishments with 75 percent specialization or more in class	119	22.5	256.9	18.2	35.0	185.2	521.8	1 096.9	1 597.5	33.2
37152	Truck trailerswith axle ratings of less than 10,000 lb:										
	Establishments with this product class primary	32	0.9	8.1	0.7	1.3	5.8	16.6	22.8	40.2	0.5
	Establishments with 75 percent specialization or more in class	26	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3716	**Motor homes produced on purchased chassis:**										
	Entire industry	116	19.2	205.4	15.4	29.6	135.1	443.3	1 132.5	1 564.5	16.4
	Establishments with 75 percent specialization or more	101	16.7	177.3	13.4	25.9	115.5	353.5	987.6	1 332.9	(D)
37161	Motor homes built on purchased chassis:										
	Establishments with this product class primary	116	19.2	205.4	15.4	29.6	135.1	443.3	1 132.5	1 564.5	16.4
	Establishments with 75 percent specialization or more in class	101	16.7	177.3	13.4	25.9	115.5	353.5	987.6	1 332.9	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3711	Motor vehicles and car bodies....1977..	76,517.8	72,691.3	3,447.6	378.9	95	72,979.1	72,691.3	287.8	99
	1972..	42,905.6	40,957.4	1,652.2	296.0	96	41,045.9	40,957.4	88.5	99
	1967..	27,296.0	25,831.7	1,045.1	419.2	96	25,921.6	25,831.7	89.9	99
3713	Truck and bus bodies....1977..	2,003.3	1,743.8	118.4	141.2	94	1,880.9	1,743.8	137.1	93
	1972..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3714	Motor vehicle parts and accessories....1977..	35,750.8	33,086.1	2,097.7	567.0	94	37,843.9	33,086.1	4,757.8	87
	1972..	18,333.5	16,768.7	1,150.8	414.0	94	19,417.0	16,768.7	2,648.3	86
	1967..	11,623.8	10,320.4	1,122.3	181.1	90	11,735.2	10,320.4	1,414.8	88
3715	Truck trailers....1977..	1,910.1	1,725.7	110.1	74.3	94	1,807.0	1,725.7	81.3	96
	1972..	1,117.9	1,009.5	43.4	65.0	96	1,079.0	1,009.5	69.5	94
	1967..	713.9	641.7	39.9	32.3	94	702.3	641.7	60.5	91
3716	Motor homes produced on purchased chassis....1977..	1,564.5	1,401.4	119.8	43.3	92	1,494.6	1,401.4	93.2	94
	1972..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

[1]Industry 3716 was established as a separate industry in 1977. In prior years, data for this industry were included with industry 3713. Data for 1972 and 1967 are not available. See 1972 publication for historical data on a combined basis.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Motor vehicles and car bodies (SIC 3711)	Truck and bus bodies (SIC 3713)	Motor vehicle parts and accessories (SIC 3714)	Truck trailers (SIC 3715)	Motor homes produced on purchased chassis (SIC 3716)	All other industries
	Total	(X)	76,517.8	2,003.3	35,750.8	1,910.1	1,564.5	(X)
	Primary products	(X)	72,691.3	1,743.8	33,086.1	1,725.7	1,401.4	(X)
	Secondary products	(X)	3,447.6	118.4	2,097.7	110.1	119.8	(X)
	Miscellaneous receipts	(X)	378.9	141.2	567.0	74.3	43.3	(X)
3711-	Motor vehicles and car bodies	72,979.1	72,691.3	(D)	(D)	-	(D)	(D)
37111	Passenger cars and car chassis	47,798.9	(D)	-	(D)	-	-	-
37112	Trucks, truck tractors, and truck chassis	21,543.5	21,348.4	-	(D)	-	(D)	(D)
37113	Buses	(D)	(D)	(D)	-	-	-	(D)
37114	Military vehicles (tactical)	(D)	(D)	-	-	-	-	(D)
37115	Passenger car bodies	(D)	(D)	(D)	-	-	-	(D)
37110	Motor vehicles, n.s.k	(D)	(D)	(D)	-	-	(D)	(D)
3713-	Truck and bus bodies	1,880.9	29.9	1,743.8	(D)	(D)	(D)	56.3
37131	Truck, bus, and other vehicle bodies	1,326.5	21.0	1,223.8	(D)	33.6	(D)	36.7
37132	Motor vehicles (complete) purchased chassis	316.7	8.9	283.4	-	(D)	(D)	18.8
37130	Truck and bus bodies, n.s.k	237.7	-	236.5	.2	.1	.1	.8
3714-	Motor vehicle parts and accessories	37,841.8	(D)	(D)	33,086.1	37.3	.9	1,886.4
37141	New motor vehicle parts and accessories	36,735.4	(D)	(D)	32,016.7	37.3	.9	1,849.6
37143	Rebuilt motor vehicle parts and accessories	592.9	-	-	567.6	-	-	25.3
37140	Motor vehicle parts and accessories, n.s.k	513.5	-	.2	501.9	-	-	11.5
3715-	Truck trailers	1,807.0	-	(D)	(D)	1,725.7	(D)	53.7
37151	Truck trailers with axle ratings of 10,000 lb. or more	1,680.9	-	(D)	(D)	1,604.2	-	52.4
37152	Truck trailers with axle ratings of less than 10,000 lb.	41.3	-	(D)	-	37.7	(D)	(D)
37150	Truck trailers, n.s.k	84.8	-	(D)	-	83.8	-	(D)
3716-	Motor homes produced on purchased chassis	1,494.6	-	(D)	-	-	1,401.4	(D)
37161	Motor homes built on purchased chassis	1,494.6	-	(D)	-	-	1,401.4	(D)
37160	Motor homes, n.s.k	(Z)	-	-	-	-	(Z)	(Z)
	Other shipments by 4-digit product group:							
2531-	Public building and related furniture	(X)	-	-	(D)	-	(D)	(X)
2851-	Paints and allied products	(X)	-	-	(D)	-	-	(X)
2891-	Adhesives and sealants	(X)	-	-	(D)	-	-	(X)
2992-	Lubricating oils and greases	(X)	-	-	(D)	-	-	(X)
3069-	Fabricated rubber products, n.e.c	(X)	-	.1	(D)	-	-	(X)
3079-	Miscellaneous plastics products	(X)	-	-	(D)	-	-	(X)
3231-	Products of purchased glass	(X)	-	-	(D)	-	-	(X)
3264-	Porcelain electrical supplies	(X)	-	-	(D)	-	-	(X)
3292-	Asbestos products	(X)	-	-	(D)	-	-	(X)
3293-	Gaskets, packing, and sealing devices	(X)	-	-	(D)	-	-	(X)
3321-	Gray iron castings	(X)	(D)	-	(D)	-	-	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	-	(D)	-	-	(X)
3361-	Aluminum castings	(X)	-	-	(D)	-	-	(X)
3399-	Primary metal products, n.e.c	(X)	-	-	(D)	-	-	(X)
3429-	Hardware, n.e.c	(X)	-	(D)	14.3	-	-	(X)
3441-	Fabricated structural metal	(X)	-	-	(D)	(D)	-	(X)
3442-	Metal doors, sash, and trim	(X)	-	-	10.8	-	-	(X)
3443-	Fabricated plate work (boiler shops)	(X)	-	-	(D)	(D)	-	(X)
3444-	Sheet metal work	(X)	-	(D)	(D)	(D)	-	(X)
3451-	Screw machine products	(X)	-	-	(D)	-	-	(X)
3452-	Bolts, nuts, rivets, and washers	(X)	-	-	(D)	-	-	(X)
3462-	Iron and steel forgings	(X)	(D)	-	(D)	-	-	(X)
3463-	Nonferrous forgings	(X)	-	-	(D)	-	-	(X)
3465-	Automotive stampings	(X)	(D)	(D)	209.9	-	-	(X)
3469-	Metal stampings, n.e.c	(X)	(D)	(D)	(D)	-	-	(X)
3479-	Metal coating and allied services	(X)	-	-	22.4	-	-	(X)
3493-	Steel springs, except wire	(X)	(D)	-	(D)	-	-	(X)
3494-	Valves and pipe fittings	(X)	-	-	(D)	-	-	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	-	(D)	(Z)	-	(X)
3499-	Fabricated metal products, n.e.c	(X)	-	.7	(D)	(D)	-	(X)
3519-	Internal combustion engines, n.e.c	(X)	(D)	-	(D)	-	-	(X)
3523-	Farm machinery and equipment	(X)	-	(D)	(D)	(D)	-	(X)
3524-	Lawn and garden equipment	(X)	-	(D)	(D)	-	-	(X)
3531-	Construction machinery	(X)	(D)	2.7	36.0	(D)	-	(X)
3533-	Oil field machinery	(X)	-	(D)	(D)	(D)	-	(X)
3535-	Conveyors and conveying equipment	(X)	-	.3	(D)	-	-	(X)
3536-	Hoists, cranes, and monorails	(X)	-	(D)	(D)	(D)	-	(X)
3537-	Industrial trucks and tractors	(X)	-	(D)	(D)	(D)	-	(X)
3541-	Machine tools, metal cutting types	(X)	-	-	(D)	-	-	(X)
3542-	Machine tools, metal forming types	(X)	-	-	(D)	-	-	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Motor vehicles and car bodies (SIC 3711)	Truck and bus bodies (SIC 3713)	Motor vehicle parts and accessories (SIC 3714)	Truck trailers (SIC 3715)	Motor homes produced on purchased chassis (SIC 3716)	All other industries
	Other shipments by 4-digit product group--Con.							
3544-	Special dies, tools, jigs, and fixtures	(X)	(D)	-	(D)	-	-	(X)
3549-	Metalworking machinery, n.e.c.	(X)	-	-	(D)	-	-	(X)
3551-	Food products machinery	(X)	-	-	-	(D)	-	(X)
3552-	Textile machinery	(X)	-	-	(D)	-	-	(X)
3562-	Ball and roller bearings	(X)	-	-	(D)	-	-	(X)
3563-	Air and gas compressors	(X)	-	-	(D)	-	-	(X)
3566-	Speed changers, drives, and gears	(X)	3.0	-	(D)	-	-	(X)
3568-	Power transmission equipment, n.e.c.	(X)	-	-	(D)	-	-	(X)
3585-	Refrigeration and heating equipment	(X)	-	-	30.4	-	-	(X)
3589-	Service industry machinery, n.e.c.	(X)	(D)	(D)	-	-	-	(X)
3592-	Carburetors, pistons, rings, and valves	(X)	-	-	(D)	-	-	(X)
3599-	Machinery, except electrical, n.e.c.	(X)	-	.1	28.4	-	-	(X)
3621-	Motors and generators	(X)	-	-	(D)	-	-	(X)
3633-	Household laundry equipment	(X)	-	-	(D)	-	-	(X)
3635-	Household vacuum cleaners	(X)	-	-	(D)	-	-	(X)
3639-	Household appliances, n.e.c.	(X)	-	-	(D)	-	-	(X)
3641-	Electric lamp bulbs	(X)	-	-	(D)	-	-	(X)
3694-	Engine electrical equipment	(X)	-	-	(D)	-	-	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	18.6	-	-	(X)
3728-	Aircraft equipment, n.e.c.	(X)	-	-	(D)	-	-	(X)
3743-	Railroad equipment	(X)	-	-	(D)	-	-	(X)
3792-	Travel trailers and campers	(X)	(D)	(D)	(D)	(D)	(D)	(X)
3795-	Tanks and tank components	(X)	-	-	(D)	-	-	(X)
3799-	Transportation equipment, n.e.c.	(X)	(D)	(D)	(D)	(D)	(D)	(X)
3822-	Environmental controls	(X)	-	-	4.7	-	-	(X)
3823-	Process control instruments	(X)	-	-	4.3	-	-	(X)
3824-	Fluid meters and counting devices	(X)	-	-	(D)	-	-	(X)
3825-	Instruments to measure electricity	(X)	-	-	(D)	-	-	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	(D)	8.6	13.4	1.5	(D)	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	(D)	208.8	2.8	(D)	(X)
99980 31	Receipts for installation or construction	(X)	(D)	4.7	.2	(D)	-	(X)
99980 41	Receipts for research and development work	(X)	-	(D)	1.5	(D)	-	(X)
99980 61	Receipts for repair work	(X)	(D)	26.1	6.4	21.3	(D)	(X)
99980 98	Other miscellaneous receipts	(X)	(D)	31.1	26.8	10.1	15.6	(X)
99989 00	Resales	(X)	308.8	67.8	309.7	37.8	25.9	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3711-	3531 Construction machinery	(D)
	3544 Special dies, tools, jigs, and fixtures	(D)
	3743 Railroad equipment	(D)
	3792 Travel trailers and campers	(D)
	3795 Tank and tank components	(D)
3713-	3531 Construction machinery	(D)
	3536 Hoists, cranes, and monorails	(D)
	3792 Travel trailers and campers	(D)
3714-	2519 Household furniture, n.e.c.	(D)
	2645 Die-cut paper and board	(D)
	3011 Tires and inner tubes	(D)
	3069 Fabricated rubber products, n.e.c.	(D)
	3079 Miscellaneous plastics products	(D)
	3317 Steel pipe and tubes	(D)
	3325 Steel castings, n.e.c.	(D)
	3351 Copper rolling and drawing	(D)
	3354 Aluminum extruded products	(D)
	3451 Screw machine products	6.7
	3462 Iron steel forgings	(D)
	3465 Automotive stampings	(D)
	3494 Valves and pipe fittings	14.4
	3511 Turbines and turbine generator sets	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3714-	3519 Internal combustion engines, n.e.c.	(D)
	3523 Farm machinery and equipment	(D)
	3531 Construction machinery	(D)
	3562 Ball and roller bearings	(D)
	3568 Power transmission equipment, n.e.c.	85.2
	3585 Refrigeration and heating equipment	(D)
	3592 Carburetors, pistons, rings and valves	135.9
	3599 Machinery, except electrical, n.e.c.	(D)
	3647 Vehicular lighting equipment	(D)
	3651 Radio and TV receiving sets	(D)
	3662 Radio and TV communication equipment	8.7
	3694 Engine electrical equipment	274.9
	3724 Aircraft engines and engine parts	(D)
	3728 Aircraft equipment, n.e.c.	(D)
	3743 Railroad equipment	(D)
	3792 Travel trailers and campers	11.5
	3799 Transportation equipment, n.e.c.	(D)
3715	3441 Fabricated structural metal	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3448 Prefabricated metal buildings	(D)
	3523 Farm machinery and equipment	(D)
	3531 Construction machinery	(D)
3716	3792 Travel trailers and campers	76.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.
[1]Product classes 37113, 37114, and 37115 were combined to avoid disclosing operations of individual companies.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MOTOR VEHICLES AND CAR BODIES						
3711- --	Total	.....	(NA)	(X)	72,979.1	(X)	41,045.9
37111 --	Passenger cars, knocked down or assembled, and chassis for sale separately	.....	(NA)	(X)	47,798.9	(X)	29,246.2
37111 11	Complete vehicles, knocked down or assembled, including station wagons, ambulances, hearses, and taxicabs if produced on passenger-car chassis. For vehicles assembled abroad, value is on same basis as for domestic interplant shipments of knocked down vehicles (value includes extra equipment billed with vehicles)	Thousands	10	9,192.2	47,796.3	8,848.6	29,229.3
37111 51	Chassis for sale separately	Thousands	2			5.4	16.9
37111 00	Passenger cars and chassis, n.s.k.	.....	(NA)	(X)	2.6	(X)	-
37112 --	Trucks, truck tractors, and truck chassis (chassis of own manufacture)	Thousands	(NA)	3,548.1	21,543.5	2,438.5	9,566.1
	Trucks, truck tractors and truck chassis, knocked down or assembled, including trucks such as pickup, panel delivery, or other commercial vehicles made on passenger-car chassis if chassis are of own manufacture; including station wagons, motor homes, ambulances, hearses, and taxicabs if produced on truck chassis; and all truck chassis whether or not to be used for transportation of property such as fire apparatus, street sprinklers, school buses, and ambulances. Excludes specialized road construction machinery and off-the-highway trucks. To be reported in number of units and value of shipments for each gross-vehicle-weight category, including value of bodies and other equipment billed with vehicles:						
	Trucks, truck tractors, and truck chassis by gross vehicle weight		(NA)	3,548.1	21,543.5	2,438.5	9,566.1
37112 11	6,000 pounds and less		7	1,363.8	6,380.4	1,306.7	3,675.5
37112 13	6,001 to 10,000 pounds		7	1,775.7	8,331.4	667.6	2,006.2
37112 15	10,001 to 14,000 pounds		6	50.1	275.0	76.7	246.9
37112 17	14,001 to 16,000 pounds		4			35.6	189.4
37112 21	16,001 to 19,500 pounds		4	41.3	268.6	54.4	209.9
37112 23	19,501 to 26,000 pounds		9	163.4	2,013.9	152.2	963.9
37112 25	26,001 to 33,000 pounds		7	25.3	467.9	27.2	246.7
37112 27	33,001 to 44,000 pounds		9	32.3	760.0	76.6	1,197.1
37112 28	Over 44,000 pounds		10	96.2	3,045.7	41.5	815.0
	Trucks shipped by body type (quantity only)		(NA)	3,548.1	(X)	2,438.5	(X)
37112 31	Pickup, all types		(NA)	1,907.6	(X)	1,223.7	(X)
37112 33	Panel		(NA)	-	(X)	4.2	(X)
37112 35	Multi-stop		(NA)	-	(X)	5.7	(X)
37112 32	Passenger carrier		(NA)	148.3	(X)	(3)	(X)
37112 37	Van		(NA)	448.5	(X)	278.3	(X)
	Motor homes:						
37112 34	Conventional (Type A)		(NA)	3.5	(X)		
37112 36	Chopped van or mini (Type C)		(NA)			3.1	(X)
37112 39	Van camper (Type B)		(NA)	-	(X)		
37112 41	Station wagon (on truck chassis)		(NA)	459.0	(X)	103.1	(X)
37112 45	General utility		(NA)			136.7	(X)
37112 48	Other body types		(NA)			3134.9	(X)
	Truck chassis and truck tractors (quantity only):						
37112 53	With cab, including chopped van chassis		(NA)	496.4	(X)	447.7	(X)
37112 55	Without cab		(NA)	84.8	(X)	101.1	(X)
37112 00	Trucks, truck tractors, and truck chassis (chassis of own manufacture), n.s.k.		(NA)	(X)	2.6	(X)	15.5
37113 --	Buses, except trolley buses, and fire department vehicles (chassis of own manufacture)		(NA)			(X)	240.9
37113 13	Buses (body mounted on chassis of own manufacture), including military but excluding trolley buses		2				
37113 15	Buses, consisting of integrally constructed body-chassis frame, usually rear-engine mounted such as those usually delivered to common carriers or franchised operators for city and intercity transit, charter hire, or sightseeing; school and government		7			7.8	196.8
37113 21	Fire department vehicles		10			1.0	44.1
37113 00	Buses and fire department vehicles, n.s.k.		(NA)	(S)	43,590.0	(X)	-
37114 --	Combat vehicles, wheeled or tracked tactical vehicles or carriers, excluding tanks and self-propelled weapons:						
37114 11	Combat vehicles, wheeled or tracked tactical vehicles or carriers, excluding tanks, self-propelled weapons, and other full-tracked armored vehicles		4				
37115 --	Passenger car bodies:					(S)	1,965.7
37115 11	Passenger car bodies	Thousands	4				

See footnotes at end of table.

Table 6a. Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MOTOR VEHICLES AND CAR BODIES--Con.						
37110 00	Motor vehicles, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	([4])	(X)	19.0
37110 02	Motor vehicles, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	46.7	(X)	8.0
	TRUCK AND BUS BODIES						
3713- --	Total[5]	.....	(NA)	(X)	[5]1,880.9	(X)	[3]934.4
37131 --	Truck, bus, and other vehicle bodies, except passenger car bodies	.....	(NA)	(X)	1,326.5	(X)	624.2
	Truck, bus, and other vehicle bodies, except passenger car bodies sold separately:						
37131 12	To motor vehicle manufacturers, including interplant transfers	Thousands.....	5	([6])	([6])	67.2	47.9
	To other than motor vehicle manufacturers, including bodies installed on chassis owned by others:						
	Truck bodies:						
37131 21	Van		45	**34.1	90.4	29.7	54.0
37131 23	Multistop		10	26.7	80.3	28.0	52.0
37131 25	Pickup (all types)		5	*5.3	15.8	4.4	4.0
37131 27	Panel		3	**.4	.5	.2	.5
37131 33	Dump		48	**22.8	46.8	39.2	61.9
37131 34	Stake and platform		33	**35.4	35.9	50.0	26.8
37131 36	Utility, including service and line construction, and repair types		48	**44.0	86.4	(S)	63.9
37131 37	Tank, including street flushing, petroleum, and other tank types		15	(S)	14.5	2.5	16.7
	Refuse and garbage (packer type):						
37131 31	Front loading		10	1.0	17.8		
37131 32	Rear loading		12	5.7	52.8	13.5	86.0
37131 35	Side loading		7	*1.1	12.5		
37131 39	Other		26	(S)	32.8	37.1	84.7
37131 51	Bus bodies		13	**37.2	203.8	26.0	82.3
37131 55	Other vehicle bodies (ambulance, hearse, fire department, etc., except passenger car)	Thousands.....	78	[6]346.9	[6]598.5	(S)	43.5
37131 00	Truck, bus, and other vehicle bodies, n.s.k	.....	(NA)	(X)	37.7	(X)	([7])
37132 --	Complete vehicles, except passenger cars and motor homes, produced on purchased chassis[5]	.....	(NA)	(X)	[5]316.7	(X)	[3]193.9
37132 71	Ambulances	Thousands.....	19	*2.6	40.3	1.1	12.9
37132 75	Hearses and undertakers' vehicles, except limousines		4	1.5	32.3	2.5	28.5
37132 77	Fire department vehicles		28	*2.1	77.7	1.4	36.8
37132 79	Buses (body mounted on purchased chassis), including military, but excluding trolley buses		10	.7	25.3	(X)	34.9
37132 98	All other highway vehicles, including trucks (platform, stake, van, tank, dump, etc.), street cleaning apparatus, rotary and blow-type snowplows, pickup sweepers, noncombat amphibious vehicles, etc	Thousands.....	53	(S)	131.8	(X)	80.8
37132 00	Complete vehicles produced on purchased chassis, n.s.k	.....	(NA)	(X)	9.3	(X)	([7])
37130 00	Truck and bus bodies, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	134.9	(X)	[7]93.2
37130 02	Truck and bus bodies, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	102.8	(X)	23.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]		Shipments for replacement including shipments to U.S. motor vehicle manufacturers for resale		Value of shipments to U.S. motor vehicle manufacturers or their suppliers for use in original equipment (million dollars)	Value of shipments for export including transfers to other divisions for export (million dollars)
				Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1977						
	MOTOR VEHICLE PARTS AND ACCESSORIES								
3714- --	Total	.....	(NA)	(X)	[8]37,841.8	(X)	(X)	(X)	(X)
37141 --	Motor vehicle parts and accessories, including gasoline engines, but excluding kits and rebuilt parts	.....	(NA)	(X)	36,735.4	(X)	(X)	(X)	(X)
	Motor vehicle parts and accessories, excluding n.s.k.	.....	(NA)	(X)	36,629.3	(X)	5,373.3	28,342.6	2,913.4
37141 11	Gasoline engines, new (with or without cylinder heads, fuel pumps, water pumps, and other standard accessories)	Millions	6	10.0	5,528.4	.2	128.2	4,933.4	466.8
37141 17	Hub and drum assemblies		13	31.9	479.5	1.1	34.3	429.5	15.7
37141 21	Fuel pump assemblies		10	19.3	88.1	7.8	39.0	46.5	2.6
37141 23	Water pump assemblies		14	10.4	112.4	3.9	45.5	62.6	4.3
	Filters:								
37141 24	Fuel		17	**57.8	44.9	**33.7	32.4	9.0	3.5
37141 25	Oil		24	*340.9	424.6	*259.3	333.6	75.3	15.7
37141 26	Air		23	**131.7	190.0	**100.9	148.9	32.1	9.0
37141 22	Hydraulic		8	*5.3	13.1	1.4	4.7	(D)	(D)
37141 28	Coolant		4	(S)	4.6	(D)	(D)	(D)	(D)
	Exhaust system components:								
37141 27	Mufflers, including regular or standard, sports or glass pack, and resonators		31	**44.4	419.6	**24.3	192.4	211.4	15.9
37141 29	Pipes, including exhaust tail, intermediate, connecting, and crossover		34	**80.8	341.0	**40.6	171.5	164.1	5.5
37141 31	Radiators, complete		23	*17.9	719.3	.9	35.4	674.1	9.8
	Brake parts and assemblies:								
	Brake cylinders:								
37141 32	Wheel		7	35.5	69.8	*9.4	28.2	40.2	1.3
37141 34	Master		8	21.4	275.8	7.4	54.7	191.9	29.2
37141 33	Brake valves		7	*28.7	50.5	(D)	(D)	38.6	(D)
37141 36	Brake shoe assemblies (drum brake)		20	30.3	221.3	2.9	13.7	198.6	9.0
37141 38	Brake caliper assemblies (disc brake)		14	37.8	346.1	*1.1	11.4	313.8	20.8
37141 14	Brake discs		15	30.9	109.9	(D)	(D)	99.3	(D)
	Wheels:								
37141 35	Passenger car type		19	*66.0	626.6	**14.5	197.0	408.3	21.3
37141 37	Truck and bus type, including those for truck trailers and trailer coaches		15	20.4	356.9	3.4	61.2	271.8	23.9
	Transmissions, except auxiliary, and parts:								
	Manual:								
37141 41	Passenger car type		4	.4	66.7	(D)	(D)	60.1	(D)
37141 45	Truck and bus type	Millions	12	1.5	598.3	(Z)	3.8	513.1	81.4
37141 48	Parts for manual transmissions	.....	10	(X)	110.1	(X)	84.1	10.8	15.2
	Automatic:								
37141 43	Passenger car type	Millions	3	9.8	2,081.3	(D)	(D)	1,807.2	(D)
37141 47	Truck and bus type	Millions	5	3.5	812.3	(D)	(D)	727.4	(D)
37141 49	Parts for automatic transmissions	.....	20	(X)	390.1	(X)	95.5	246.9	47.7
37141 51	Universal joints	Millions	10	23.2	171.7	4.0	38.6	126.5	6.5
37141 53	Turn signal flashers		3	(D)	(D)	(D)	(D)	(D)	(D)
37141 55	Ball joints		8	48.0	134.2	(S)	49.8	73.9	10.5
	Engine bearings:								
37141 56	Main (halves)		5	194.4	61.8	34.1	14.2	41.8	5.8
37141 57	Connecting rod (halves)		11	405.8	123.5	84.8	29.6	80.4	13.5
37141 58	Camshaft (halves)		6	93.8	25.2	23.0	6.3	16.4	2.5
37141 61	Shock absorbers		61	*100.9	482.5	47.3	278.6	178.8	25.1
37141 63	Oil pumps, engine		8	8.5	52.7	(D)	(D)	31.9	(D)
37141 64	Oil pumps for power steering		6	3.5	75.1	.2	3.0	62.4	9.7
37141 65	Thermostats (engine, cooling system)		7	46.0	30.7	20.7	17.9	7.3	5.5
37141 66	PCV (positive crankcase ventilation) valves		8	(S)	16.3	(D)	(D)	8.4	(D)
37141 67	Tie rod ends		10	11.9	50.7	(D)	(D)	23.4	(D)
37141 68	Steering idler arms, drag links, and control arms		11	*56.7	341.3	(D)	(D)	273.6	(D)
37141 71	Universal joint repair kits		2	(D)	(D)	(D)	(D)	(D)	(D)
37141 73	Windshield wiper blades and arms		8	(D)	(D)	(D)	(D)	(D)	(D)
37141 12	Crankshafts, engine		10	**1.0	29.0	.1	3.8	25.0	.2
37141 75	Camshafts, engine		14	3.3	54.2	1.0	17.4	31.9	4.9
37141 76	Rocker arms and parts		12	139.7	62.2	(S)	13.7	44.3	4.2
37141 78	Valve guides, seats, tappets		11	178.7	118.3	(D)	(D)	74.2	(D)
37141 81	Clutch disc and facing assemblies		14	30.5	173.6	*8.7	55.3	103.2	15.2
37141 87	Convertible tops	Millions	7	.2	13.5	.1	7.9	(D)	(D)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]		Shipments for replacement including shipments to U.S. motor vehicle manufacturers for resale		Value of shipments to U.S. motor vehicle manufacturers or their suppliers for use in original equipment (million dollars)	Value of shipments for export including transfers to other divisions for export (million dollars)
				Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1977--Con.						
	MOTOR VEHICLE PARTS AND ACCESSORES--Con.								
37141 --	Motor vehicle parts and accessories, including gasoline engines, but excluding kits and rebuilt parts--Con.								
	Motor vehicle parts and accessories, excluding n.s.k.--Con.								
37141 91	Automotive air-conditioning hose assemblies..	Millions	5	(D)	(D)	(D)	(D)	(D)	-
37141 93	Automotive power steering hose assemblies (power transfer and cooling).....		5	13.6	31.6	2.6	6.2	(D)	(D)
37141 95	Automotive brake hose assemblies.....	Millions	6	(D)	(D)	(D)	(D)	(D)	(D)
37141 98	All other parts and accessories for passenger cars, trucks, and buses.....	.....	(NA)	(X)	[9]19,831.1	(X)	2,902.9	15,350.2	1,578.0
37141 00	Motor vehicle parts and accessories, excluding kits and rebuilt parts, n.s.k.....	.....	(NA)	(X)	106.3	(X)	(X)	(X)	(X)
37143 --	Rebuilt automotive components, including gasoline engines, but excluding carburetors, generators, alternators, and starting motors[10].....	Millions	(NA)	(X)	592.9	(X)	(X)	(X)	(X)
37143 21	Fuel pumps.....		14	*1.3	5.3	(X)	(X)	(X)	(X)
37143 23	Water pumps.....		47	*7.5	63.5	(X)	(X)	(X)	(X)
37143 24	Oil pumps.....		2	.1	1.0	(X)	(X)	(X)	(X)
37143 26	Clutch discs and pressure plates.....		41	**4.7	67.0	(X)	(X)	(X)	(X)
37143 31	Gasoline engines.....		43	*.7	117.4	(X)	(X)	(X)	(X)
37143 44	Automatic transmissions.....		9	.2	11.1	(X)	(X)	(X)	(X)
37143 45	Manual transmissions.....		3	(S)	1.0	(X)	(X)	(X)	(X)
37143 46	Brake shoe assemblies (drum brake).....		40	(S)	45.1	(X)	(X)	(X)	(X)
37143 47	Brake caliper assemblies (disc brake).....	Millions	18	(S)	7.9	(X)	(X)	(X)	(X)
37143 98	All other rebuilt parts.....	.....	(NA)	(X)	267.7	(X)	(X)	(X)	(X)
37143 00	Rebuilt engines and parts for motor vehicles, except carburetors, n.s.k.....	.....	(NA)	(X)	5.9	(X)	(X)	(X)	(X)
37140 00	Motor vehicle parts and accessories, n.s.k., typically for establishments with 5 employees or more (see note).....	.....	(NA)	(X)	203.8	(X)	(X)	(X)	(X)
37140 02	Motor vehicle parts and accessories, n.s.k., typically for establishments with less than 5 employees (see note).....	.....	(NA)	(X)	309.7	(X)	(X)	(X)	(X)
			1972						
	MOTOR VEHICLE PARTS AND ACCESSORIES								
3714- --	Total.....	.....	(NA)	(X)	[8]19,417.0	(X)	(X)	(X)	(X)
37141 --	Motor vehicle parts and accessories, including gasoline engines, but excluding kits and rebuilt parts.....	.....	(NA)	(X)	18,766.8	(Y)	(X)	(X)	(X)
	Motor vehicle parts and accessories, excluding n.s.k.....	.....	(NA)	(X)	18,573.7	(X)	2,788.1	14,665.9	1,119.7
37141 11	Gasoline engines, new (with or without cylinder heads, fuel pumps, water pumps, and other standard accessories).....	Millions	(NA)	8.0	2,516.5	.2	52.8	2,229.0	234.7
37141 17	Hub and drum assemblies.....		(NA)	67.2	600.7	8.5	61.1	531.0	8.6
37141 21	Fuel pump assemblies.....		(NA)	20.8	57.5	7.9	27.1	28.8	1.6
37141 23	Water pump assemblies.....		(NA)	11.6	75.9	6.6	42.4	28.9	4.6
	Exhaust systems:								
37141 27	Mufflers, including regular or standard, sport or glass pack, and resonators.....		(NA)	54.5	235.2	32.5	129.7	99.4	6.1
37141 29	Pipes, including exhaust tail, intermediate, connecting, and crossover.....		(NA)	66.6	165.7	42.3	98.8	63.5	3.4
37141 31	Radiators, complete.....		(NA)	11.6	312.8	.8	27.3	285.5	
	Brake cylinders:								
37141 32	Wheel.....		(NA)	46.4	63.0	5.5	11.4	44.8	6.8
37141 34	Master.....		(NA)	15.2	100.2	(S)	92.9		7.3
	Wheels:								
37141 35	Passenger car type.....		(NA)	47.9	223.0	7.9	68.6	154.4	
37141 37	Truck and bus type, including those for truck trailers and trailer coaches.....		(NA)	21.0	231.8	2.3	40.3	181.3	10.2
	Transmissions, except auxiliary, and parts:								
	Passenger car type:								
37141 41	Conventional transmission.....		(NA)	.6	51.6	(S)	44.9		6.7
37141 43	Automatic transmissions.....	Millions	(NA)	9.6	1,518.0	(S)	1,518.0		

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]		Shipments for replacement including shipments to U.S. motor vehicle manufacturers for resale		Value of shipments to U.S. motor vehicle manufacturers or their suppliers for use in original equipment (million dollars)	Value of shipments for export including transfers to other divisions for export (million dollars)
				Quantity[2]	Value (million dollars)	Quantity[2]	Value (million dollars)		
			1972--Con.						
	MOTOR VEHICLE PARTS AND ACCESSORIES--Con.								
37141 --	Motor vehicle parts and accessories, including gasoline engines, but excluding kits and rebuilt parts--Con.								
	Motor vehicle parts and accessories, excluding n.s.k.--Con.								
	Transmissions, except auxiliary, and parts--Con.								
	Truck and bus type:								
37141 45	Conventional transmissions	Millions	(NA)	1.5	349.0	(S)	320.8		28.2
37141 47	Automatic transmissions		(NA)	1.1	168.4	(S)	168.4		
37141 51	Universal joints		(NA)	18.6	134.1	.6	10.7	116.1	7.3
37141 61	Shock absorbers		(NA)	111.8	306.3	53.8	193.4	98.3	14.6
37141 81	Clutch disc and facing assemblies		(NA)	16.1	107.1	6.8	46.1	49.1	11.9
	Filters:								
37141 24	Fuel		(NA)	25.2	14.1	18.9	12.1	2.0	
37141 25	Oil		(NA)	250.7	266.8	208.9	223.5	36.4	6.9
37141 26	Air		(NA)	59.2	94.9	49.7	59.4	29.5	6.0
	Engine bearings:								
37141 56	Main (halves)		(NA)	289.6	39.0	28.5	8.5	28.1	2.4
37141 57	Connecting rod (halves)		(NA)	193.3	37.5	44.6	10.4	25.1	2.0
37141 58	Camshaft (halves)		(NA)	45.7	7.4	3.2	.8	6.1	.5
37141 63	Oil pumps, engine		(NA)	2.9	16.5	(S)	16.5		
37141 64	Oil pumps for power steering		(NA)	3.6	45.7	.2	3.4	38.3	4.0
37141 65	Thermostats (engine, cooling system)		(NA)	18.5	16.5	12.3	9.6	6.9	
37141 67	Tie rod ends		(NA)	(11)	(11)	(11)	(11)	(11)	(11)
37141 71	Universal joint repair kits		(NA)	10.3	19.5	(S)	19.5		
37141 73	Windshield wiper blades and arms		(NA)	(S)	124.0	(S)	124.0		
37141 75	Camshafts, engine		(NA)	3.5	25.9	2.5	23.1	2.3	.5
37141 76	Rocker arms and parts		(NA)	(S)	22.8	(S)	2.1	18.2	2.5
37141 78	Valve guides, seats, tappets		(NA)	56.2	38.4	15.4	8.9	29.5	
37141 53	Turn signal flashers		(NA)	18.4	13.0	(S)	13.0		-
37141 55	Ball joints		(NA)	35.7	65.9	8.9	30.0	32.6	3.3
37141 87	Convertible tops		(NA)	1.3	11.2	(S)	11.2		
37141 91	Automotive air conditioning hose assemblies		(NA)	(S)	24.3	(S)	24.3		
37141 93	Automotive power steering hose assemblies (power transfer and cooling)								
37141 95	Automotive brake hose assemblies	Millions	(NA)	27.5	25.2	(S)	25.2		
37141 98	All other parts and accessories for passenger cars, trucks, and buses	.....	(NA)	(X)	11 12 10,448.3	(X)	11 12 1,726.5	11 12 8,067.9	11 12 653.9
37141 00	Motor vehicle parts and accessories, excluding kits and rebuilt parts, n.s.k.	.....	(NA)	(X)	193.1	(X)	(X)	(X)	(X)
37143 --	Rebuilt engines and parts for motor vehicles, except carburetors[10]	.....	(NA)	(X)	365.6	(X)	(X)	(X)	(X)
37143 21	Fuel pumps	Millions	(NA)	2.5	9.7	(X)	(X)	(X)	(X)
37143 23	Water pumps		(NA)	6.2	31.6	(X)	(X)	(X)	(X)
37143 26	Clutch discs and pressure plates		(NA)	5.4	44.5	(X)	(X)	(X)	(X)
37143 31	Gasoline engines		(NA)	.3	72.1	(X)	(X)	(X)	(X)
37143 44	Automatic transmissions	Millions	(NA)	.1	7.1	(X)	(X)	(X)	(X)
37143 98	All other rebuilt parts	.....	(NA)	(X)	189.4	(X)	(X)	(X)	(X)
37143 00	Rebuilt engines and parts for motor vehicles, except carburetors, n.s.k.	.....	(NA)	(X)	11.2	(X)	(X)	(X)	(X)
37140 00	Motor vehicle parts and accessories, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	211.6	(X)	(X)	(X)	(X)
37140 02	Motor vehicle parts and accessories, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	73.0	(X)	(X)	(X)	(X)

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	TRUCK TRAILERS						
3715- --	Total		(NA)	(X)	1,807.0	(X)	1,079.0
37151 --	Truck trailers and chassis, axle ratings of 10,000 pounds or more per axle		(NA)	(X)	1,680.9	(X)	964.4
37151 10	Complete trailer units:						
	As reported in the census of manufactures		129	(X)	1,524.4	(X)	856.4
	As reported in Current Industrial Reports M37L, Truck Trailers	Thousands	(NA)	160.6	1,524.8	143.3	805.2
	Van:						
	Closed top:						
	Insulated (refrigerated):						
37151 02	Steel		(NA)	15.9	208.1	[13] [14]14.1	[13] [14]118.5
37151 14	Aluminum		(NA)				
37151 60	FRP (fiberglass reinforced plastic/plywood)		(NA)				
	Semi-insulated (non-refrigerated):						
37151 04	Steel		(NA)	2.6	21.1		
37151 16	Aluminum		(NA)				
37151 62	FRP (fiberglass reinforced plastic/plywood)		(NA)				
	Drop frame type (12 inch or more drop), except livestock:						
37151 05	Steel		(NA)	4.8	50.5	1.5	8.9
37151 15	Aluminum		(NA)			3.8	22.4
37151 64	FRP (fiberglass reinforced plastic/plywood)		(NA)			[14]	[14]
	Livestock, including livestock drop frame:						
37151 07	Steel		(NA)	1.4	24.0	1.8	17.6
37151 17	Aluminum		(NA)				
	All other closed top dry freight vans:						
37151 09	Steel		(NA)	.8	5.2	1.2	6.0
37151 19	Aluminum		(NA)	62.2	483.8	69.3	334.4
37151 68	FRP (fiberglass reinforced plastic/plywood)		(NA)	7.3	57.0	[14]	[14]
	Open top, including low side grain, fruit, etc.:						
37151 12	Steel		(NA)	1.4	11.4	1.0	5.3
37151 21	Aluminum		(NA)	2.8	28.8	3.3	18.8
37151 70	FRP (fiberglass reinforced plastic/plywood)		(NA)			[14]	[14]
	Tank:						
37151 20	For flammable liquids, including aircraft refuelers, except casing head transport		(NA)	3.1	60.9	2.7	31.3
37151 28	For asphalt		(NA)	.6	10.8	.8	8.3
37151 30	Coded for chemicals and acids		(NA)	.8	18.5	1.9	27.5
37151 32	All other tank trailers, including noncoded for chemicals and acids, high pressure, food and milk, sanitary, and cryogenics		(NA)	3.3	68.0		
37151 33	Bulk commodity and dry materials, including pneumatic and mechanical discharge, both tank and hopper types, except vans		(NA)	1.7	31.9	1.8	19.8
37151 35	Pole, logging, and pipe		(NA)	1.6	13.1	1.9	10.1
37151 37	Platform		(NA)	24.3	157.4	22.8	87.2
	Low-bed heavy haulers over 10 ton capacity, excluding tilt-bed trailers:						
37151 38	10 ton up to but excluding 40 ton capacity		(NA)	3.2	30.8	3.9	24.8
37151 39	40 ton capacity and over		(NA)	1.4	29.1		
	Dump trailers and dump chassis, highway type, (rear, side, and bottom dump, including nonpneumatic hoppers):						
37151 40	For material		(NA)	8.6	82.9	5.4	35.0
37151 42	For other, including demolition and excavation		(NA)	.8	10.0		
37151 44	Automobile transport trailers		(NA)	2.5	43.6	[14]6.4	[14]29.2
37151 49	All other trailers and chassis, except detachable trailers and detachable trailer chassis	Thousands	(NA)	9.5	78.0		
37151 50	Detachable trailer bodies and detachable trailer chassis, dollies, and converter gear:						
	As reported in the census of manufactures		31	(X)	154.2	(X)	107.5
	As reported in Current Industrial Reports M37L, Truck Trailers	Thousands	(NA)	33.5	149.4	(X)	105.5
37151 53	Detachable trailer bodies (cargo containers)		(NA)	7.6	48.2	20.0	56.3
37151 54	Detachable trailer chassis		(NA)	20.7	85.0	20.3	45.9
37151 45	Dollies or converter gear	Thousands	(NA)	5.2	16.2	2.1	3.3
37151 00	Truck trailers and chassis, n.s.k.		(NA)	(X)	2.3	(X)	-
37152 --	Truck trailers and chassis, axle ratings of less than 10,000 pounds per axle, typically with truck-tractor type (5th wheel) hitch:						
37152 55	Truck trailers and truck trailer chassis with axle ratings of less than 10,000 pounds per axle	Thousands	38	(S)	41.3	56.7	67.5
37150 00	Truck trailers, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	39.2	(X)	37.1
37150 02	Truck trailers, n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	45.6	(X)	10.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MOTOR HOMES BUILT ON PURCHASED CHASSIS[15]						
3716- --	Total	.....	(NA)	(X)	1,494.6	(X)	509.6
37161 --	Motor homes built on purchased chassis	.....	(NA)	(X)	1,309.6	(X)	509.6
37161 01	Conventional (Type A)	Thousands	41	42.0	696.4		
37161 05	Chopped van or mini (Type C)		98	*60.2	654.9		
37161 07	Van camper (Type B)		9	7.6	45.6		
37161 21	Converted vans not qualifying as van camper (Type B) motor homes, excluding custom conversion of vans to which others hold title	Thousands	19	18.0	97.7	51.9	509.6
37161 00	Motor homes built on purchased chassis, n.s.k.	.....	(NA)	(X)	(Z)		

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousands dollars or hours; under 50 employees.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figures: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]In 1972, product code 37112 32 was included with product code 37112 48.

[4]For 1977, data for product classes 37113, 37114, 37115, and n.s.k. product code 37110 00 were combined to avoid disclosing operations of individual companies.

[5]Industry 3713 and product class 37132 were revised for 1977 to exclude motor homes built on purchased chassis, which are now classified in Industry 3716, MOTOR HOMES. 1972 data are revised downward by $509.6 million from values previously published.

[6]For 1977, data for product code 37131 12 were included with product code 37131 55 to avoid disclosing operations of individual companies.

[7]For 1972, data for product codes 37131 00 and 37132 00 were included with product code 37130 00.

[8]Limited to shipments of products classified in industry 3714. Additional shipments of motor vehicle parts were classified outside industry 3714. For 1977, those with greatest value were: stampings, $9.3 billion; tires and tubes, $6.8 billion; motor vehicle hardware, $2.2 billion; engine electrical equipment, $2.2 billion; and diesel engines, $1.3 billion.

[9]Includes $1,286.8 million for which respondents did not indicate whether shipments were for replacement, OEM, or export.

[10]Limited to rebuilding on a factory basis. Rebuilding operations performed in service stations, garages, etc., were excluded from census. Figures may be somewhat understated because of exclusion of data for establishments with less than 10 employees. Such establishments were typically not included in mail portion of census, but were included in published data by use of data from administrative records. These estimates are included in value shown for product code 37140 02. Although use of such administrative records tend to create a small understatement for most specific products, effect is more significant for those products typically produced in small establishments, such as rebuilding facilities.

[11]For 1972, data for product codes 37141 67 and 37141 98 were combined to avoid disclosing operations of individual companies.

[12]Includes $1,336.6 million for which respondents did not indicate whether shipments were for replacements, OEM, or export. Difference was distributed proportionately using ratios of reported data.

[13]Separation between insulated and semi-insulated closed top vans occured after 1972. Separate data are not available for 1972.

[14]FRP categories were introduced after 1972. Data for 1972 were included in product code 37151 49.

[15]Industry 3716, Motor Home Produced on Purchased Chassis was created in 1977 from industry 3713 Truck and Bus Bodies. Separate data for product codes 37161 01, 37161 05, 37161 07, and 37161 21 for 1972 are not available.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
37111, PASSENGER CARS AND CAR CHASSIS		
United States	47,798.9	29,246.2
East North Central Division:		
Michigan	16,572.5	10,208.5
West North Central Division:		
Missouri	5,710.5	GG
37112, TRUCKS, TRUCK TRACTORS AND TRUCK CHASSIS		
United States	21,543.5	9,627.1
East North Central Division:		
Ohio	3,300.0	GG
Michigan	6,249.4	GG
West North Central Division:		
Missouri	2,290.7	1,213.9
Pacific Division:		
California	1,990.4	GG
37131, TRUCK, BUS, AND OTHER VEHICLE BODIES		
United States	1,326.5	624.2
New England Division:		
Massachusetts	7.4	11.9
Middle Atlantic Division:		
New York	21.0	26.5
New Jersey	6.1	12.0
Pennsylvania	73.3	48.9
East North Central Division:		
Ohio	549.2	71.0
Indiana	140.2	50.6
Illinois	35.7	43.9
Michigan	37.0	31.1
Wisconsin	36.4	43.0
West North Central Division:		
Minnesota	3.2	5.5
Iowa	27.7	EE
Missouri	42.8	28.1
Kansas	9.1	AA
South Atlantic Division:		
Virginia	23.6	17.1
North Carolina	61.3	AA
Florida	7.8	6.7
East South Central Division:		
Tennessee	30.6	20.9
Alabama	24.7	24.4
Mississippi	14.6	EE
West South Central Division:		
Louisiana	2.2	BB
Oklahoma	6.0	4.4
Texas	25.8	13.7
Pacific Division:		
Washington	3.7	3.5
California	64.5	36.6
37132, MOTOR VEHICLES (COMPLETE) PURCHASED CHASSIS		
United States	316.7	703.5
New England Division:		
Massachusetts	6.6	BB
Middle Atlantic Division:		
New York	18.0	22.6
Pennsylvania	19.3	EE
East North Central Division:		
Ohio	53.8	48.7
Illinois	18.7	AA
Wisconsin	26.8	EE
37132, MOTOR VEHICLES (COMPLETE) PURCHASED CHASSIS--Con.		
West North Central Division:		
Iowa	5.5	GG
Missouri	15.6	BB
South Atlantic Division:		
Florida	9.4	1.1
West South Central Division:		
Texas	22.2	10.4
Pacific Division:		
Oregon	10.0	EE
California	29.4	136.7
37141, NEW MOTOR VEHICLE PARTS AND ACCESSORIES		
United States	36,735.4	18,766.8
New England Division:		
Massachusetts	52.6	47.3
Connecticut	230.0	71.3
Middle Atlantic Division:		
New York	2,251.6	1,437.5
New Jersey	78.4	43.3
Pennsylvania	595.0	320.3
East North Central Division:		
Ohio	7,244.4	2,739.5
Indiana	3,779.8	2,077.1
Illinois	767.3	434.7
Michigan	15,826.7	8,411.8
Wisconsin	1,367.0	362.3
West North Central Division:		
Minnesota	40.7	36.9
Iowa	132.7	50.3
Missouri	486.1	198.0
Nebraska	100.2	GG
Kansas	64.5	FF
South Atlantic Division:		
Virginia	125.4	59.3
North Carolina	331.6	121.3
South Carolina	49.5	19.3
Georgia	132.8	70.6
Florida	21.3	19.4
East South Central Division:		
Kentucky	541.0	154.6
Tennessee	615.1	283.5
Alabama	219.3	66.4
West South Central Division:		
Arkansas	119.7	47.4
Oklahoma	119.6	CC
Texas	124.1	38.1
Mountain Division:		
Colorado	29.4	EE
Pacific Division:		
Washington	11.1	2.2
Oregon	101.9	55.4
California	641.1	279.0
37143, REBUILT MOTOR VEHICLE PARTS AND ACCESSORIES		
United States	592.9	365.5
New England Division:		
Massachusetts	6.5	3.1
Middle Atlantic Division:		
New York	10.5	4.9
New Jersey	25.6	20.0
Pennsylvania	44.6	6.3

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
37143, REBUILT MOTOR VEHICLE PARTS AND ACCESSORIES--Con.		
East North Central Division:		
Ohio	16.9	31.2
Indiana	20.9	17.1
Illinois	58.2	20.2
Michigan	23.9	EE
Wisconsin	3.2	BB
West North Central Division:		
Minnesota	13.5	10.8
Missouri	12.9	13.4
South Atlantic Division:		
Virginia	11.7	CC
North Carolina	16.2	15.4
Georgia	13.3	12.8
Florida	4.5	2.1
East South Central Division:		
Kentucky	16.7	12.1
Tennessee	22.8	16.2
West South Central Division:		
Texas	42.0	FF
Mountain Division:		
Colorado	6.7	AA
Arizona	2.3	1.8
Pacific Division:		
Washington	11.9	CC
California	66.5	FF
37151, TRUCK TRAILERS WITH AXLE RATINGS OF 10,000 LB. OR MORE		
United States	1,680.9	964.4
Middle Atlantic Division:		
New Jersey	27.5	CC
Pennsylvania	301.8	GG
East North Central Division:		
Ohio	23.4	CC
Indiana	110.3	59.7
Illinois	90.1	58.8
Wisconsin	59.1	21.4
37151, TRUCK TRAILERS WITH AXLE RATINGS OF 10,000 LB. OR MORE--Con.		
West North Central Division:		
Missouri	44.6	24.6
East South Central Division:		
Tennessee	48.1	FF
Alabama	84.0	46.7
West South Central Division:		
Louisiana	17.0	CC
Texas	200.8	110.1
Pacific Division:		
Washington	21.9	24.9
California	65.7	54.5
37152, TRUCK TRAILERS WITH AXLE RATINGS OF LESS THAN 10,000 LB.		
United States	41.3	67.5
West North Central Division:		
Kansas	6.9	(NA)
West South Central Division:		
Oklahoma	13.3	(NA)
Texas	2.2	BB
37161, MOTOR HOMES BUILT ON PURCHASED CHASSIS[1]		
United States	1,494.6	(NA)
East North Central Division:		
Indiana	426.9	(NA)
Michigan	123.6	(NA)
West North Central Division:		
Kansas	45.2	(NA)
West South Central Division:		
Texas	51.6	(NA)
Mountain Division:		
Idaho	19.1	(NA)
Pacific Division:		
California	432.7	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

(NA) Not available.

[1]New Industry in 1977.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3711-	Motor vehicles and car bodies	72,979.1	59,752.9	43,394.3	41,949.6	48,009.0	41,045.9	25,921.6	(NA)
37111	Passenger cars and car chassis	47,798.9	39,745.5	28,833.4	27,154.1	33,357.7	29,246.2	19,277.4	16,768.3
37112	Trucks, truck tractors, and truck chassis	21,543.5	16,596.6	11,872.0	12,846.2	12,166.6	9,566.1	4,263.7	3,376.2
37113	Buses						240.9	179.8	182.5
37114	Military vehicles (tactical)	3,636.7	3,384.8	2,681.6	1,944.8	2,455.6	1,965.7	2,160.1	(2)
37115	Passenger car bodies								(3)
37110	Motor vehicles, n.s.k.		(S)	(7.3)	(4.5)	29.1	27.0	40.7	(2)
3713-	Truck and bus bodies	1,880.9	(4)	(4)	(4)	(4)	[4]934.4	(4)	(4)
37131	Truck, bus, and other vehicle bodies	1,326.5	1,012.6	869.2	836.8	753.0	624.2	404.3	300.4
37132	Motor vehicles (complete) purchased chassis	316.7	(4)	(4)	(4)	(4)	[4]193.9	(4)	(4)
37130	Truck and bus bodies, n.s.k.	237.7	12.8	(39.4)	(28.9)	121.3	116.3	67.8	27.6
3714-	Motor vehicle parts and accessories	37,841.8	30,384.7	23,023.5	22,669.7	22,855.7	19,417.0	11,735.1 [2]	[3]13,386.1
37141	New motor vehicle parts and accessories	36,735.4	29,600.0	22,349.8	22,092.8	22,221.7	18,766.8	11,326.9	[3]12,975.8
37143	Rebuilt motor vehicle parts and accessories	592.9	644.6	530.6	417.1	350.6	365.6	197.5	188.3
37140	Motor vehicle parts and accessories, n.s.k.	513.5	(140.1)	(143.1)	(159.8)	283.4	284.6	210.7	[2]222.0
3715-	Truck trailers	1,807.0	1,249.9	878.2	1,595.1	1,298.5	1,079.0	702.2	484.7
37151	Truck trailers with axle ratings of 10,000 lb. or more	1,680.9	1,144.7	780.9	1,471.0	1,130.4	964.4	643.5	461.4
37152	Truck trailers with axle ratings of less than 10,000 lb.	41.3	(90.2)	(81.1)	107.6	(123.0)	67.5	25.7	10.5
37150	Truck trailers, n.s.k.	84.8	(S)	(16.2)	16.5	(45.1)	47.1	33.1	12.8
3716-	Motor homes produced on purchased chassis								
37161	Motor homes built on purchased chassis	1,494.6	(4)	(4)	(4)	(4)	[4]509.6	(4)	(4)
37160	Motor homes, n.s.k.								

(NA) Not available. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures shown in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Prior to 1967, figures for product class 37114, Combat Vehicles, and product class 37110, Motor Vehicles, n.s.k., were included with product class 37140, Motor Vehicles Parts and Accessories, n.s.k.

[3]Prior to 1967, figures for product class 37115, Passenger Car Bodies, were included with product class 37141, Motor Vehicle Parts and Accessories.

[4]Prior to 1977, Industry 3716, Motor Homes Produced on Purchased Chassis, were included in product class 37132, Motor Vehicles Built on Purchased Chassis. Data for 1972 have been revised to exclude motor homes.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3711, MOTOR VEHICLES AND CAR BODIES					
	Materials, parts, containers, and supplies total	.....	(X)	57,415.1	(X)	30,792.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 tons.....	(D)	(D)	145.3	31.8
331012	Sheet and strip		(D)	(D)	1,311.8	259.8
331013	Plates		21.8	7.6	31.6	6.1
331015	Structural shapes		(S)	3.7		
331017	Wire and wire products				71.0	19.1
331019	All other carbon steel mill shapes and forms		48.6	19.9		
	Alloy steel except stainless:					
331021	Bars and bar shapes					
331029	All other alloy mill shapes and forms		106.7	50.3	139.9	43.4
	Stainless steel:					
331033	Sheet and strip		2.6	3.4	1.0	1.5
331050	All other stainless steel mill shapes and forms	1,000 tons.....	(D)	(D)	.1	.1
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content).	4.0	8.0	6.3	4.9
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb.....	(D)	(D)	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(D)	(D)		
335143	Plate, sheet, and strip, including military cups and discs		(D)	(D)	12.4	8.0
335152	Pipe and tube		2.3	2.1		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		67.6	53.7	24.5	12.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc					
335008	All other aluminum mill shapes and forms (wire, rolled rod, bar, powder, welded tubing, etc.)		25.9	21.5	24.2	14.0
339915	Metal powders	Million lb.....	-	-	(D)	(D)
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 tons.....	(D)	(D)	(D)	(D)
333401	Aluminum and aluminum-base alloy refinery shapes		(D)	(D)	(D)	(D)
	Scrap, excluding home scrap:					
999811	Iron and steel		(D)	(D)	(D)	(D)
999808	Aluminum and aluminum-base alloy		(D)	(D)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed		(NA)	(X)	(S)	(X)
332045	Steel:					
	Purchased		117.3	60.4	14.1	10.4
	Produced and consumed	1,000 tons.....	(NA)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	89.7	97.0	82.3	53.2
	Produced and consumed		(NA)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	Million lb.....	(NA)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 tons.....	(D)	(D)	132.8	48.7
	Produced and consumed	1,000 tons.....	(NA)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(D)	(D)	(D)	(D)
	Produced and consumed	Million lb.....	(NA)	(X)	(S)	(X)
362115	Fractional horsepower electric motors (under 1 hp):					
	Purchased	Thousands.....	(D)	(D)	(D)	(D)
	Produced and consumed	Thousands.....	(NA)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	28.2	(X)	48.4
356201	Roller	.....	(X)	55.2		
229501	Coated, impregnated or laminated fabrics	Mil. lin. yd...	(D)	(D)	1.7	2.8
	Uncoated broad-woven fabrics (piece goods):					
221103	Cotton		(D)	(D)	.3	.3
220128	Other broad-woven fabrics	Mil. lin. yd...	.1	.1	(D)	(D)
301101	Pneumatic and solid tires and inner tubes	Million tires..	44.1	1,668.7	(D)	(D)
304101	Rubber and plastic hose and belting	.....	(X)	105.4	(D)	(D)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....			(D)	(D)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	128.8	(D)	(D)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	-	(D)	(D)
307902	Fabricated plastics products, except gaskets	.....	(X)	(D)	(D)	(D)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	207.1	(X)	[2]186.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	(D)	(X)	[2]430.0
320102	Glass and glass products, including windows and mirrors	.....	(X)	339.4	(X)	[2]830.0
329221	Asbestos friction materials	.....	(X)	(D)	(X)	(X)
354401	Special dies, tools, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	(D)	(X)	(X)
970099	All other materials & components, parts, containers, & supplies consumed (see Note)	.....	(X)	51,250.2	(X)	[2]27,855.1
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	153.5	(X)	35.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3713, TRUCK AND BUS BODIES					
	Materials, parts, containers, and supplies	.....	(X)	989.2	(X)	884.1
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	Thousand tons..	(S)	11.8	40.3	9.8
331012	Sheet and strip		*273.1	104.3	269.8	56.5
331013	Plates		*47.2	15.5	77.8	15.8
331015	Structural shapes		**24.2	7.8	47.2	9.6
331017	Wire and wire products		(S)	1.5	.7	.3
331019	All other carbon steel mill shapes and forms		(S)	16.0	11.9	3.9
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*3.1	1.6	6.8	1.9
331029	All other alloy mill shapes and forms		12.6	5.4	12.8	7.1
	Stainless steel:					
331033	Sheet and strip		**2.0	2.9	1.8	2.2
331050	All other stainless steel mill shapes and forms	Thousand tons..	(S)	.3	.1	.2
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content).	(S)	4.3	4.2	2.4
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction	Million lb.....			.1	.1
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	.4		
335143	Plate, sheet, and strip, including military cups and discs				(D)	(D)
335152	Pipe and tube		(S)	.5		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**44.7	37.8	53.0	24.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**23.9	18.0	23.1	10.2
335008	All other aluminum mill shapes and forms (wire, rolled rod, bar, powder, welded tubing, etc.)		(S)	.5	6.9	3.6
339915	Metal powders	Million lb.....	-	-	-	-
	Primary metals:					
331051	Pig iron, excluding silvery iron	Thousand tons..	-	-	-	-
333401	Aluminum and aluminum-base alloy refinery shapes		(D)	(D)	(D)	(D)
	Scrap, excluding home scrap:					
999811	Iron and steel		**.2	.1	1.9	.2
999808	Aluminum and aluminum-base alloy		(D)	(D)	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		(S)	2.1	5.3	1.8
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		.9	1.4	7.7	4.2
	Produced and consumed	Thousand tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	*.4	.7	.7	.6
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	(D)	.2	.3
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	Thousand tons..	(S)	.4	.7	.3
	Produced and consumed	Thousand tons..	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(D)	(D)	.5	.1
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
362115	Fractional horsepower electric motors (under 1 hp):					
	Purchased	Thousands.....	34.7	.5	44.3	.5
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	.3	(X)	.1
356201	Roller	.....	(X)	.2	(X)	.2
229501	Coated, impregnated or laminated fabrics	Mil. lin. yd...	1.2	3.6	3.4	6.2
	Uncoated broad woven fabrics (piece goods):					
221103	Cotton		(D)	(D)	(D)	(D)
220128	Other broad woven fabrics	Mil. lin. yd...	.8	.3	.9	.2
301101	Pneumatic and solid tires and inner tubes	Million tires..	(S)	2.6	.4	6.2
304101	Rubber and plastics hose and belting	.....	(X)	(D)	([4])	([4])
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	3.2	([4])	([4])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	1.1	3.1	1.1
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	1.6	([4])	([4])
307902	Fabricated plastics products, except gaskets	.....	(X)	2.0	(X)	[2]6.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	15.8	(X)	[2]17.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	11.7	(X)	[2]13.0
320102	Glass and glass products, including windows and mirrors	.....	(X)	11.0	(X)	[2]21.0
329221	Asbestos friction materials	.....	(X)	.3	(X)	([4])
354401	Special dies, tools, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	9.0	(X)	([4])
970099	All other materials & components, parts, containers, & supplies consumed (see Note)	.....	(X)	483.2	(X)	[4] [2]556.3
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	209.2	(X)	93.2

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3714, MOTOR VEHICLE PARTS AND ACCESSORIES					
	Materials, parts, containers, and supplies	.....	(X)	18,906.5	(X)	8,922.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 tons.....	1,418.6	626.9	1,262.9	292.8
331012	Sheet and strip		7,168.7	2,336.8	5,957.1	1,142.6
331013	Plates		339.5	100.0	334.2	69.8
331015	Structural shapes		(S)	31.9	46.4	10.7
331017	Wire and wire products		*162.7	104.9	194.8	71.1
331019	All other carbon steel mill shapes and forms		*477.3	244.0	609.6	137.1
	Alloy steel except stainless:					
331021	Bars and bar shapes		*632.7	292.9	320.2	83.0
331029	All other alloy mill shapes and forms		296.4	140.1	175.5	64.7
	Stainless steel:					
331033	Sheet and strip		122.0	132.1	28.0	23.4
331050	All other stainless steel mill shapes and forms	1,000 tons.....	10.9	17.8	4.5	5.8
335792	Insulated wire and cable, except magnet wire	Mil. lb. (copper content).	*58.4	45.4	54.5	45.0
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....	(S)	11.8	9.7	7.8
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		164.9	123.7	143.8	77.6
335143	Plate, sheet, and strip, including military cups and discs		**161.3	168.5	135.3	102.6
335152	Pipe and tube		13.6	21.0	129.7	49.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	116.0	30.9	14.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		44.3	37.7	9.9	5.9
335008	All other aluminum mill shapes and forms (wire, rolled rod, bar, powder, welded tubing, etc.)		*13.6	12.9	22.9	8.1
339915	Metal powders	Million lb.....		56.8	57.3	14.0
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 tons.....	33.1	4.6	60.0	4.5
333401	Aluminum and aluminum-base alloy refinery shapes		(S)	93.8	38.3	15.9
	Scrap, excluding home scrap:					
999811	Iron and steel		*473.6	38.1	403.0	16.2
999808	Aluminum and aluminum-base alloy		51.4	6.3	(D)	(D)
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		4,416.3	2,756.6	3,869.5	1,425.0
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*174.7	158.8	88.7	46.9
	Produced and consumed	1,000 tons.....	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	*495.1	536.1	563.8	310.6
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		*6.0	10.5	3.6	3.6
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 tons.....	1,371.5	997.3	1,509.0	551.9
	Produced and consumed	1,000 tons.....	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	36.4	46.2	6.3	5.2
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
362115	Fractional horsepower electric motors (under 1 hp):					
	Purchased	Thousands.....	5,002.9	41.3	2,461.3	9.0
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	116.9	(X)	29.5
356201	Roller	.....	(X)	213.1	(X)	133.3
229501	Coated, impregnated or laminated fabrics	Mil. lin. yd...	*8.1	19.9	8.6	11.0
	Uncoated broad woven fabrics (piece goods):					
221103	Cotton		(D)	(D)	(D)	(D)
220128	Other broad woven fabrics	Mil. lin. yd...	8.0	7.1	38.5	9.6
301101	Pneumatic and solid tires and inner tubes	Million tires..	(D)	(D)	(S)	9.7
304101	Rubber and plastics hose and belting	.....	(S)	60.5	(X)	(5)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(S)	133.7	(X)	(5)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	266.1	135.7	208.0	55.1
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(S)	42.7	(X)	(5)
307902	Fabricated plastics products, except gaskets	.....	(S)	50.8	(X)	250.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(S)	54.4	(X)	229.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	320.1	(X)	2275.0
320102	Glass and glass products, including windows and mirrors	.....	(X)	15.8	(X)	217.0
329221	Asbestos friction materials	.....	(X)	93.0	(X)	259.0
354401	Special dies, tools, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	201.8	(X)	2166.0
970099	All other materials & components, parts, containers, & supplies consumed (see Note)	.....	(X)	7,569.0	(X)	53,199.3
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	550.6	(X)	251.3

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3715, TRUCK TRAILERS					
	Materials, parts, containers, and supplies	.....	(X)	1,241.0	(X)	641.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 tons.....	(S)	18.2	25.5	5.5
331012	Sheet and strip		(S)	45.9	131.4	24.9
331013	Plates		**78.4	27.7	62.1	13.5
331015	Structural shapes		108.1	41.2	117.4	23.4
331017	Wire and wire products		*1.8	1.0	(S)	.5
331019	All other carbon steel mill shapes and forms		(S)	9.8	15.9	4.7
	Alloy steel, except stainless:					
331021	Bars and bar shapes		25.9	10.1	4.2	1.4
331029	All other alloy mill shapes and forms		**18.8	12.0	23.4	8.3
	Stainless steel:					
331033	Sheet and strip		(S)	45.9	7.0	7.2
331050	All other stainless steel mill shapes and forms	1,000 tons.....				
335792	Insulated wire and cable, except magnet wire	Mil. lb (copper content).	2.3	2.6	[2].7	.9
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....	(D)	(D)	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		.4	.5	(S)	1.4
335152	Pipe and tube					
335143	Plate, sheet, and strip, including military cups and discs		-	-	(X)	([6])
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**117.1	96.8	111.0	45.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*112.0	83.5	94.2	36.7
335008	All other aluminum mill shapes and forms (wire, rolled rod, bar, powder, welded tubing, etc.)		1.6	1.7	2.0	1.1
339915	Metal powders	Million lb.....	-	-	-	-
	Primary metals:					
331051	Pig iron, excluding silvery iron	1,000 tons.....	(D)	(D)	-	-
333401	Aluminum and aluminum-base alloy refinery shapes		(D)	(D)	-	-
	Scrap, excluding home scrap:					
999811	Iron and steel		.7	.3	(D)	(D)
999808	Aluminum and aluminum-base alloy				(X)	([6])
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased		*8.5	9.3	6.4	3.7
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		*9.0	8.2	9.3	7.7
	Produced and consumed	1,000 tons.....	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	.4	.8	.3	.3
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	(D)	-	-
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 tons.....	2.3	3.6	3.4	3.1
	Produced and consumed	1,000 tons.....	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(D)	(D)	(D)	(D)
	Produced and consumed	Million lb.....	(S)	(X)	(X)	(X)
362115	Fractional horsepower electric motors (under 1 hp):					
	Purchased	Thousands.....	(D)	(D)	-	-
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	.8	(X)	1.5
356201	Roller	.....	(X)	5.3		
229501	Coated, impregnated, or laminated fabrics	Mil. lin. yd...	(D)	(D)	(D)	(D)
	Uncoated broad woven fabrics (piece goods):					
221103	Cotton		-	-	(D)	(D)
220119	Other broad woven fabrics	Mil. lin. yd...	-	-	(D)	(D)
301101	Pneumatic and solid tires and inner tubes	Million tires..	(S)	113.8	.7	52.3
304101	Rubber and plastics hose and belting	.....	(D)	(D)	(X)	([6])
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	2.4	(X)	([6])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(D)	(D)	(D)	(D)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	8.9	(X)	([6])
307902	Fabricated plastics products, except gaskets	.....	(X)	1.8	(X)	([6])
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	11.9	(X)	[2]7.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	13.4	(X)	[2]16.0
320102	Glass and glass products, including windows and mirrors	.....	(X)	.4	(X)	([6])
329221	Asbestos friction materials	.....	(X)	.5	(X)	([6])
354401	Special dies, tools, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	(D)	(X)	([6])
970099	All other materials & components, parts, containers, & supplies consumed (see Note)	.....	(X)	551.4	(X)	[6]341.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	99.0	(X)	28.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977**

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977, quantity[1]	1977, delivered cost (million dollars)
	INDUSTRY 3716, MOTOR HOMES PRODUCED ON PURCHASED CHASSIS			
	Materials, parts, containers, and supplies	.....	(X)	1,102.7
	Mill shapes and forms, except castings:			
	Carbon steel:			
331011	Bars and bar shapes	1,000 tons.....	(S)	9.3
331012	Sheet and strip		(S)	24.5
331013	Plates		(D)	(D)
331015	Structural shapes			4.0
331017	Wire and wire products		(D)	(D)
331019	All other		(S)	[1]3.9
	Alloy steel, except stainless:			
331021	Bars and bar shapes		**2.5	3.1
331029	All other			
	Stainless steel:			
331033	Sheet and strip		(D)	(D)
331050	All other	1,000 tons.....	(D)	(D)
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content).	(S)	3.5
	Copper and copper-base alloy:			
335728	Bare wire for electrical conduction	Million lb.....	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	.4
335143	Plate, sheet, and strip, including military cups and discs		*.1	.1
335152	Pipe and tube		(S)	2.0
	Aluminum and aluminum-base alloy:			
335301	Sheet, plate, and foil		(S)	36.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	4.3
335008	All other (wire, rolled rod and bar, powder, welded tubing, etc.)		(S)	2.1
339915	Metal powders	Million lb.....	(D)	(D)
	Primary metals:			
331051	Pig iron (exclude silvery iron)	1,000 tons.....	(D)	(D)
333401	Aluminum and aluminum-base alloy refinery shapes		(D)	(D)
	Scrap, excluding home scrap:			
999811	Iron and steel		-	-
999808	Aluminum and aluminum-base alloy		(D)	(D)
	Castings, (rough and semifinished):			
332011	Iron (gray and malleable)		(D)	(D)
332045	Steel	1,000 tons.....	(S)	.5
336100	Aluminum and aluminum-base alloy	Million lb.....	(D)	(D)
336200	Copper and copper-base alloy	Million lb.....	(D)	(D)
	Forgings:			
346200	Iron and steel	1,000 tons.....	(D)	(D)
346310	Aluminum and aluminum-base alloy	Million lb.....	(D)	(D)
362115	Fractional horsepower electric motors (under 1 hp.) excluding timing motors	Thousands.....	(D)	(D)
	Bearings:			
356218	Ball	.....	(X)	(D)
350201	Roller	.....	(X)	(D)
229501	Coated, impregnated or laminated fabrics	Mil. lin. yd...	(D)	8.6
	Uncoated broad woven fabrics:			
221103	Cotton	Mil. lin. yd...	(D)	(D)
220128	Other broadwoven fabrics		(S)	1.1
301101	Pneumatic tires and inner tubes	Million tires..	(S)	13.4
262104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc	Million pounds.	(S)	2.1
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	2.4
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	5.6
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	12.8
320102	Glass and glass products, including windows and mirrors	.....	(X)	15.5
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	.4
307902	Fabricated plastics products, except gaskets	.....	(X)	6.7
329221	Asbestos friction materials	.....	(X)	(D)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	.....	(X)	(D)
970099	All other materials & components, parts, containers, & supplies consumed (see Note)	.....	(X)	705.7
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	207.9

Note: Supplemental data for code 970099 are presented in the 1977 Census of Manufactures subject series report "Selected Materials Consumed."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]For 1972, material code 304101, 306902, 307903, 329221, and 354401 were included with material code 970099.

[5]For 1972, material code 304101, 306902, and 307903 were included with material code 970099.

[6]For 1972, material code 335143, 999808, 304101, 306902, 307903, 307902, 320102, 329221, and 354401 were included with material code 970099.

Aerospace Equipment, Including Parts

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AEROSPACE EQUIPMENT, INCLUDING PARTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title	
3721	Aircraft
3724	Aircraft Engines and Engine Parts
3728	Aircraft Equipment, N.E.C.
3761	Guided Missiles and Space Vehicles
3764	Space Propulsion Units and Parts
3769	Space Vehicle Equipment, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments in the industry, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Establishments of small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 Supplement.

INDUSTRY 3721, AIRCRAFT

This industry comprises establishments primarily engaged in the manufacture or assembly of complete aircraft. It also includes establishments primarily engaged in research and development on aircraft or in factory-type aircraft modification on a contract or fee basis. Establishments primarily engaged in the manufacture of engines, propellers, and other aircraft parts and auxiliary equipment are classified in industries 3724 and 3728, and those in the production of guided missiles and space vehicles and parts are classified in SIC group 376.

The total value of shipments for establishments classified in the Aircraft industry amounted to $14,834 million in 1977, an increase of 69 percent from 1972. The value of shipments of products classified as primary to the Aircraft industry was $12,053 million, an increase of 60 percent from 1972 (see the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). The products accounting for a significant portion of this change were personal and utility type aircraft, for which shipments increased 329 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $8,134 million in 1977, was 60 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore, not adjusted for changes in price levels.

In 1977 the industry had 222.7 thousand employees, a decrease of 4 percent from 1972. The leading States in employment were California, Texas, Washington, and New York, accounting for 64 percent of the industry's 1977 employment. Data for Washington and New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Monthly data for personal, utility, and commercial type aircraft are avaliable in Current Industrial Reports M37G, Complete Aircraft and Aircraft Engines.

Establishments of small single-unit companies with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3724, AIRCRAFT ENGINES AND ENGINE PARTS

This industry comprises establishments primarily engaged in manufacturing aircraft engines and engine parts. Research and development on aircraft engines is included in this industry. Establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and parts are classified in industry 3764.

The total value of shipments for establishments classified in the Aircraft Engines and Engine Parts industry amounted to $6,272 million in 1977, an increase of 72 percent over 1972. The value of shipments of products classified as primary to the industry was $4,995 million, an increase of 63 percent from 1972 (see the Introduction for a discussion of the difference between value of shipments for the industry and value of

product shipments). The products accounting for a significant portion of this change were military aircraft engines for which shipments increased 140 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $3,599 million in 1977, was 81 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 106.1 thousand employees, an increase of 1 percent from 1972. The leading States in employment were Connecticut, Ohio, Indiana, and Massachusetts, accounting for 70 percent of the industry's 1977 employment. Data for Connecticut, Indiana, and Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Monthly data on shipments of engines for civilian aircraft are available in Current Industrial Report M37G, Complete Aircraft and Aircraft Engines.

Establishments of small single-unit companies with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

INDUSTRY 3728, AIRCRAFT PARTS, N.E.C.

This industry comprises establishments primarily engaged in manufacturing aircraft parts and auxiliary equipment, not elsewhere classified. Research and development on aircraft parts is included in this industry. Establishments primarily engaged in manufacturing or assembling complete aircraft are classified in industry 3721, aircraft engines and parts in industry 3724, aeronautical instruments in industry 3811, aeronautical electrical equipment in industry 3694, aeronautical navigation equipment in industry 3622, and guided missile and space vehicle parts and auxiliary equipment in industry 3769.

The total value of shipments for establishments classified in the Aircraft Equipment, N.E.C. industry amounted to $4,758 million in 1977, an increase of 57 percent over 1972. The value of shipments of products classified as primary to the industry was $5,762 million, an increase of 68 percent from 1972 (see the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). Value added by manufacture, at $3 billion in 1977, was 46 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 102.0 thousand employees, a decrease of 2 percent from 1972. The leading States in employment were California, Washington, Ohio, and Kansas, accounting for 64 percent of the industry's 1977 employment. Data for Washington, Ohio, and Kansas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of small single-unit companies with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3761, GUIDED MISSILES AND SPACE VEHICLES

This industry comprises establishments primarily engaged in manufacturing complete guided missiles and space vehicles. Research and development and other services on or for guided missiles and space vehicles are included in this industry. Establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and propulsion unit parts are classified in industry 3764, space satellite, guided missile and space vehicle airborne and ground guidance, checkout and launch electronic systems and components in industry 3662, and guided missile and space vehicle airframes, nose cones and space capsules in industry 3769.

The total value of shipments for establishments classified in the Guided Missiles and Space Vehicles industry amounted to $5,314 million in 1977, an increase of 29 percent over 1972. The value of shipments of products classified as primary to the industry was $4,848 million, an increase of 31 percent from 1972 (see the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). The products accounting for a significant portion of this change were research and development on complete space vehicles, for which shipments increased 53 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $3,565 million in 1977, was 21 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 94.1 thousand employees, a decrease of 21 percent from 1972. The leading States in employment were California, Florida, Colorado, and Arizona, accounting for 91 percent of the industry's 1977 employment. Data for Colorado and Arizona have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of small single-unit companies with up to 20 employees were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 3764, SPACE PROPULSION UNITS AND PARTS

This industry comprises establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and propulsion unit parts. This industry also includes establishments primarily engaged in research and development

on guided missile and space vehicle propulsion units and propulsion unit parts.

The total value of shipments for establishments classified in the Space Propulsion Units and Parts industry amounted to $887 million in 1977, an increase of 24 percent over 1972. The value of shipments of products classified as primary to the industry was $930 million, an increase of 26 percent from 1972 (see the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). The products accounting for a significant portion of this change were research and development on missile and space vehicle engines, for which shipments increased 141 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $587 million in 1977, was 16 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 17.0 thousand employees, a decrease of 18 percent from 1972. The leading States in employment were California, Utah, New York, and Ohio, accounting for 84 percent of the industry's 1977 employment. Data for Utah, New York, and Ohio have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of small single-unit companies with up to 20 employees were excluded from the mail portion of the census. There were no establishments for which administrative records were used.

INDUSTRY 3769, SPACE VEHICLE EQUIPMENT, N.E.C.

This industry comprises establishments primarily engaged in manufacturing guided missile and space vehicle parts and auxiliary equipment, not elsewhere classified. Research and development on guided missile and space vehicle parts and equipment, not elsewhere classified, is also included in this industry. Establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and unit parts are classified in industry 3764, warheads for missiles in industry 3483, and navigational and guidance systems in industry 3662.

The total value of shipments for establishments classified in the Space Vehicle Equipment, N.E.C. industry amounted to $339 million in 1977, a decrease of 57 percent over 1972. The value of shipments of products classified as primary to the industry was $882 million, an increase of 7 percent from 1972 (see the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments). Value added by manufacture, at $237 million in 1977, was 54 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.2 thousand employees, a decrease of 66 percent from 1972. The leading States in employment were Pennsylvania, Louisiana, California, and Connecticut, accounting for 76 percent of the industry's 1977 employment. Data for Pennsylvania, Louisiana, and Connecticut have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of small single unit companies with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for less than 1 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (number)	All establishments: Total (number)	All establishments: With 20 employees or more (number)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3721, AIRCRAFT																
1977 Census....	151	176	74	222.7	3,975.9	119.0	232.7	1,765.2	8,134.1	6,742.7	14,834.2	202.2	(NA)	6,618.5	83	98
1976 ASM.....	(NA)	(NA)	(NA)	208.7	3,563.0	116.3	230.1	1,633.1	6,823.3	6,101.7	13,419.3	150.4	2,567.5	6,308.5	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	219.9	3,439.1	122.3	244.8	1,559.5	7,015.7	5,742.5	12,202.5	123.0	2,458.0	6,822.1	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	238.7	3,298.4	137.6	268.3	1,567.5	6,972.3	5,183.8	11,665.4	111.0	2,524.0	6,155.3	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	238.5	3,059.4	137.6	265.7	1,453.3	6,635.4	4,700.1	10,666.0	119.9	2,399.5	5,419.9	(NA)	(NA)
1972 Census....	141	168	86	231.8	2,867.1	131.0	259.1	1,332.3	5,083.0	4,028.7	8,779.3	57.1	2,364.6	5,418.7	86	96
1971 ASM.....	(NA)	(NA)	(NA)	237.8	2,738.5	128.1	252.4	1,225.9	5,055.0	4,373.5	10,021.0	59.2	2,457.7	6,003.8	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	320.2	3,465.0	170.0	334.3	1,591.2	5,810.8	5,229.3	11,462.3	181.4	2,586.3	6,958.7	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	395.8	4,066.7	223.0	438.4	1,851.4	6,686.8	5,759.0	12,445.7	339.8	2,442.0	7,435.9	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	417.9	3,907.1	245.7	502.0	1,925.8	6,553.6	6,460.8	13,014.4	281.9	2,179.8	6,250.7	(NA)	(NA)
1967 Census....	91	125	83	386.8	3,569.0	230.6	489.9	1,806.7	5,447.6	5,632.2	11,079.8	408.2	1,918.6	5,253.3	83	97
1966 ASM.....	(NA)	(NA)	(NA)	357.2	3,221.8	209.3	435.0	1,527.9	4,674.6	4,326.1	9,000.1	378.4	(NA)	3,264.1	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	295.1	2,508.4	172.3	351.0	1,169.3	3,730.8	3,420.4	7,150.9	140.5	(NA)	2,300.8	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	283.5	2,328.7	159.6	327.7	1,220.5	3,416.9	3,121.6	6,584.3	102.9	1,058.3	2,333.3	(NA)	(NA)
1963 Census....	82	100	65	302.2	2,369.4	166.7	342.1	1,097.1	3,542.7	2,773.8	6,316.5	114.7	966.1	2,437.7	69	96
INDUSTRY 3724, AIRCRAFT ENGINES AND ENGINE PARTS[3]																
1977 Census....	226	269	177	106.1	1,939.4	62.4	128.7	970.0	3,599.2	2,761.7	6,272.3	177.0	(NA)	1,440.2	81	95
1976 ASM.....	(NA)	(NA)	(NA)	99.3	1,629.5	57.0	115.4	788.2	3,126.2	2,477.9	5,634.4	185.1	1,891.9	1,210.4	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	108.0	1,630.5	61.9	130.3	814.0	2,989.8	2,440.9	5,346.4	150.1	1,837.2	1,303.9	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	115.9	1,603.3	67.9	142.5	801.2	2,965.8	2,108.4	4,880.9	104.9	1,789.7	1,238.3	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	114.0	1,455.4	67.3	139.2	721.9	2,605.2	1,895.2	4,399.8	87.2	1,708.2	1,016.1	(NA)	(NA)
1972 Census....	189	232	156	104.7	1,256.6	60.4	125.0	603.4	1,991.7	1,742.1	3,640.2	73.0	1,664.9	868.2	87	94
INDUSTRY 3728, AIRCRAFT EQUIPMENT, N.E.C.[3]																
1977 Census....	678	727	297	102.0	1,704.8	58.7	113.6	828.0	2,999.5	1,746.8	4,758.0	132.5	(NA)	1,242.2	72	57
1976 ASM.....	(NA)	(NA)	(NA)	100.0	1,472.5	63.9	126.6	863.3	2,785.4	1,507.4	4,409.3	95.6	1,318.4	1,329.3	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	110.2	1,531.6	71.4	148.3	921.6	2,795.7	1,656.1	4,445.4	95.7	1,250.2	1,466.9	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	107.4	1,387.6	72.1	151.4	857.4	2,521.8	1,536.1	3,892.9	67.1	1,168.7	1,470.4	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	106.3	1,269.8	70.8	145.3	755.0	2,219.3	1,318.3	3,466.7	51.1	1,151.2	1,270.1	(NA)	(NA)
1972 Census....	649	694	313	102.2	1,158.1	68.1	139.5	677.9	2,048.9	1,064.0	3,031.9	38.9	1,145.5	1,177.2	77	66
INDUSTRY 3761, GUIDED MISSILES, SPACE VEHICLES																
1977 Census....	20	40	37	94.1	1,931.5	35.2	66.9	603.8	3,564.9	1,691.3	5,314.4	125.6	(NA)	600.2	87	91
1976 ASM.....	(NA)	(NA)	(NA)	106.2	2,093.1	38.8	76.0	633.5	3,885.6	1,865.5	5,521.4	88.3	1,216.7	884.3	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	110.8	2,017.0	41.4	80.1	650.0	3,687.8	1,955.1	5,503.2	85.4	1,153.6	654.6	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	116.9	1,941.7	44.0	87.0	603.9	3,326.7	1,963.7	5,279.2	86.8	1,131.3	491.8	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	117.3	1,840.0	44.6	85.5	577.1	3,176.0	1,494.5	4,698.2	78.4	1,101.2	451.0	(NA)	(NA)
1972 Census....	22	70	57	118.4	1,751.5	47.6	91.5	575.9	2,948.7	1,166.3	4,123.6	62.9	1,002.4	463.0	89	95
1971 ASM.....	(NA)	(NA)	(NA)	131.9	1,765.7	51.0	95.5	564.8	2,869.8	1,080.5	3,989.8	56.1	1,028.3	477.9	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	142.8	1,824.1	50.1	96.2	535.6	2,853.4	1,023.3	3,970.3	62.1	969.2	397.2	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	177.8	2,121.9	58.4	115.1	604.1	3,480.5	1,151.7	4,632.2	88.8	918.1	489.2	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	205.9	2,256.4	71.9	146.6	672.7	3,497.8	1,359.9	4,857.8	117.1	999.5	573.0	(NA)	(NA)
1967 Census....	25	65	59	201.4	2,098.7	70.2	142.9	587.0	3,338.8	1,301.7	4,640.5	111.4	860.9	485.4	89	86
1966 ASM.....	(NA)	(NA)	(NA)	169.4	1,703.8	63.6	129.4	514.4	2,711.1	1,282.4	4,013.6	99.9	(NA)	394.1	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	145.4	1,476.8	54.0	111.8	423.0	2,173.9	1,038.8	3,314.7	44.6	(NA)	257.7	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	157.0	1,425.6	51.2	103.1	382.2	2,204.8	977.0	3,183.7	69.4	410.0	192.9	(NA)	(NA)
1963 Census....	25	32	30	151.6	1,351.2	56.9	115.6	418.4	1,960.9	1,168.6	3,129.5	48.8	350.3	160.4	94	69
INDUSTRY 3764, SPACE PROPULSION UNITS AND PARTS[3]																
1977 Census....	17	26	23	17.0	333.6	5.9	12.6	95.5	586.8	295.2	886.9	24.1	(NA)	139.5	92	88
1976 ASM.....	(NA)	(NA)	(NA)	19.0	334.2	7.1	15.2	104.1	582.7	272.3	862.9	20.2	338.0	167.7	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	20.5	335.0	7.9	16.6	105.7	579.6	323.4	901.7	14.6	339.9	179.4	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	21.0	314.7	8.5	17.1	99.0	587.8	313.5	888.9	21.3	333.3	175.7	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	22.5	315.5	8.7	18.2	99.1	607.5	320.9	948.9	16.0	333.6	167.8	(NA)	(NA)
1972 Census....	22	29	28	20.8	276.2	8.1	17.3	87.6	506.6	220.7	716.3	18.4	329.9	174.2	91	87
INDUSTRY 3769, SPACE VEHICLE EQUIPMENT, N.E.C.[3]																
1977 Census....	41	42	25	7.2	139.2	3.9	8.3	55.3	236.5	109.8	339.4	13.3	(NA)	29.9	85	(D)
1976 ASM.....	(NA)	(NA)	(NA)	16.5	295.5	6.7	14.1	90.5	558.4	209.2	757.3	17.5	223.9	80.7	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	16.3	272.3	7.0	14.4	93.0	496.5	180.5	655.6	9.2	214.9	71.8	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	16.5	243.4	7.4	15.6	88.8	400.1	192.4	595.0	15.6	241.7	93.0	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	20.2	278.7	7.6	15.6	85.1	499.5	270.7	766.0	9.6	252.1	96.4	(NA)	(NA)
1972 Census....	45	48	39	20.9	289.3	7.9	16.9	83.3	513.9	286.3	788.2	11.0	258.1	91.2	79	68

(NA) Not available. N.E.C. Not elsewhere classified.

[1] In Annual Survey of Manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the industry chapter.

[2] For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3] Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4] Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5] Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6] Estimate for new capital expenditures has associated standard error of 15 percent or more and may be or limited reliability. Estimates for other data items are of acceptable reliability.

[7] Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8] Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dol.)	Assets per employee (dol.)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3721, AIRCRAFT										
1977 Census...	17,853	(NA)	53	1,955	7.59	45	72	(NA)	36,525	49	34.96
1976 ASM.....	17,072	12,302	56	1,979	7.10	45	72	19	32,694	52	29.65
1975 ASM.....	15,639	11,178	56	2,002	6.37	47	75	20	31,904	49	28.66
1974 ASM.....	13,818	10,574	58	1,934	5.84	44	73	22	29,209	47	25.99
1973 ASM.....	12,828	10,061	58	1,931	5.47	44	73	22	27,821	46	24.97
1972 Census...	12,369	10,201	57	1,978	5.14	46	79	27	21,928	56	19.62
1971 ASM.....	11,516	10,330	54	1,970	4.86	44	71	25	21,257	54	20.03
1970 ASM.....	10,821	8,080	53	1,966	4.76	46	76	23	18,147	60	17.38
1969 ASM.....	10,275	6,175	56	1,966	4.22	46	79	20	16,894	61	15.25
1968 ASM.....	9,349	5,220	59	2,043	3.84	50	80	17	15,682	60	13.05
1967 Census...	9,227	4,960	60	2,124	3.69	51	83	(NA)	14,084	66	11.12
1966 ASM.....	9,020	(NA)	59	2,078	3.51	48	84	(NA)	13,087	69	10.75
1965 ASM.....	8,500	(NA)	58	2,037	3.33	48	83	16	12,642	67	10.63
1964 ASM.....	8,214	3,730	56	2,053	3.72	47	81	15	12,053	68	10.43
1963 Census...	7,841	3,200	55	2,052	3.21	44	86	14	11,723	67	10.36
	INDUSTRY 3724, AIRCRAFT ENGINES AND ENGINE PARTS										
1977 Census...	18,279	(NA)	59	2,063	7.54	44	75	(NA)	33,923	54	27.97
1976 ASM.....	16,410	19,052	57	2,025	6.83	44	73	34	31,482	52	27.09
1975 ASM.....	15,097	17,011	57	2,105	6.25	46	76	34	27,683	55	22.95
1974 ASM.....	13,833	15,442	59	2,099	5.62	43	76	37	25,589	54	20.81
1973 ASM.....	12,767	14,984	59	2,068	5.19	43	76	39	22,853	56	18.72
1972 Census...	12,002	15,902	58	2,070	4.83	48	82	46	19,023	63	15.93
	INDUSTRY 3728, AIRCRAFT EQUIPMENT, N.E.C.										
1977 Census...	16,714	(NA)	58	1,935	7.29	37	73	(NA)	29,407	57	26.40
1976 ASM.....	14,725	13,184	64	1,981	6.82	34	68	30	27,854	53	22.00
1975 ASM.....	13,898	11,345	65	2,077	6.21	37	72	28	25,369	55	18.85
1974 ASM.....	12,920	10,882	67	2,100	5.66	39	75	30	23,480	55	16.66
1973 ASM.....	11,945	10,830	67	2,052	5.20	38	75	33	20,878	57	15.27
1972 Census...	11,332	11,208	67	2,048	4.86	35	73	38	20,048	57	14.69
	INDUSTRY 3761, GUIDED MISSILES, SPACE VEHICLES										
1977 Census...	20,526	(NA)	37	1,901	9.02	32	68	(NA)	37,884	54	53.29
1976 ASM.....	19,709	11,457	37	1,959	8.34	34	72	22	36,588	54	51.13
1975 ASM.....	18,204	10,412	37	1,935	8.11	36	72	21	33,283	55	46.04
1974 ASM.....	16,610	9,678	38	1,977	6.94	37	74	21	28,458	58	38.24
1973 ASM.....	15,686	9,388	38	1,917	6.75	32	71	23	27,076	58	37.15
1972 Census...	14,793	8,466	40	1,922	6.29	28	71	24	24,905	59	32.23
1971 ASM.....	13,387	7,800	39	1,873	5.91	27	71	26	21,757	62	30.05
1970 ASM.....	12,774	6,790	35	1,920	5.57	26	72	24	19,982	64	29.66
1969 ASM.....	11,934	5,160	33	1,971	5.25	25	71	20	19,575	61	30.24
1968 ASM.....	10,959	4,850	35	2,039	4.59	28	74	21	16,988	65	23.86
1967 Census...	10,421	4,270	35	2,036	4.11	28	73	19	16,578	63	23.36
1966 ASM.....	8,654	(NA)	38	2,036	3.99	29	73	(NA)	15,292	57	19.85
1965 ASM.....	10,103	(NA)	38	2,053	3.83	33	79	(NA)	14,628	69	19.00
1964 ASM.....	8,995	2,610	33	2,016	3.73	32	77	13	13,578	66	20.39
1963 Census...	8,904	2,310	37	2,024	3.58	37	80	11	2,926	69	7.44
	INDUSTRY 3764, SPACE PROPULSION UNITS AND PARTS										
1977 Census...	19,624	(NA)	35	2,136	7.58	33	71	(NA)	34,518	57	46.57
1976 ASM.....	17,589	17,789	37	2,141	6.85	32	70	39	30,668	57	38.34
1975 ASM.....	16,341	16,580	39	2,101	6.37	36	73	38	28,273	58	34.92
1974 ASM.....	14,986	15,871	40	2,012	5.79	35	71	37	27,990	54	34.37
1973 ASM.....	14,022	14,827	39	2,092	5.45	34	67	35	27,000	52	33.38
1972 Census...	13,279	15,861	39	2,136	5.06	31	69	46	24,356	55	29.28
	INDUSTRY 3769, SPACE VEHICLE EQUIPMENT, N.E.C.										
1977 Census...	19,333	(NA)	54	2,128	6.66	32	73	(NA)	32,847	59	28.49
1976 ASM.....	17,909	13,570	41	2,104	6.42	28	67	30	33,842	53	39.60
1975 ASM.....	16,706	13,184	43	2,057	6.46	28	69	33	30,460	55	34.48
1974 ASM.....	14,752	14,648	45	2,108	5.69	32	73	41	24,248	61	25.65
1973 ASM.....	13,797	12,480	38	2,053	5.46	35	72	33	24,728	56	32.02
1972 Census...	13,842	12,349	38	2,139	4.93	36	73	33	24,589	56	30.41

Note: For qualifications to data, see footnotes on table 1A.

(NA) Not available. N.E.C. Not elsewhere classified.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**

(For explanation of terms, see appendix A)

Geographic area	1977												1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
	INDUSTRY 3721, AIRCRAFT													
United States		176	74	222.7	3,975.9	119.0	232.7	1,765.2	8,134.1	6,742.7	14,834.2	202.2	231.8	5,083.0
New England Division:														
Connecticut	(NA)	6	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York	(NA)	4	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Pennsylvania	(NA)	4	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East North Central Division:														
Ohio	(NA)	3	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West North Central Division:														
Missouri		2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Kansas	(NA)	8	6	21.3	253.1	16.3	33.9	179.6	562.7	528.7	1,052.6	11.4	FF	(D)
South Atlantic Division:														
Georgia		9	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Florida	(NA)	12	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.9	54.1
East South Central Division:														
Alabama	(NA)	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Oklahoma	(NA)	7	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Texas	(NA)	24	13	30.1	547.7	14.6	29.6	243.3	1,190.1	608.5	1,707.9	27.6	50.2	804.0
Pacific Division:														
Washington		8	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
California	(NA)	53	18	59.6	1,173.3	28.3	54.2	443.2	2,525.6	1,520.2	4,107.0	53.8	95.9	1,457.0
	INDUSTRY 3724, AIRCRAFT ENGINES AND ENGINE PARTS													
United States		269	177	106.1	1,939.4	62.4	128.7	970.0	3,599.2	2,761.7	6,272.3	177.0	104.7	1,991.7
New England Division:														
New Hampshire	(NA)	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Vermont	(NA)	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Massachusetts	(NA)	11	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Connecticut	(NA)	40	34	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York	(NA)	13	9	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	17.1
New Jersey	(NA)	9	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Pennsylvania	(NA)	14	10	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East North Central Division:														
Ohio	(NA)	20	16	16.3	324.8	7.8	15.4	113.9	623.0	382.3	999.8	26.8	FF	(D)
Indiana	(NA)	18	14	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Illinois	(NA)	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	24.6
Michigan	(NA)	17	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Wisconsin	(NA)	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West North Central Division:														
Iowa	(NA)	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Missouri	(NA)	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Florida		23	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
East South Central Division:														
Alabama	(NA)	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Oklahoma	(NA)	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	(NA)	10	4	.5	5.4	.4	.8	3.7	9.2	2.9	11.6	.1	EE	(D)
Mountain Division:														
New Mexico	(NA)	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Arizona	(NA)	9	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	(NA)	48	25	3.5	53.5	2.2	4.2	30.4	117.6	88.2	207.1	4.3	FF	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

(For explanation of terms, see appendix A)

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
	INDUSTRY 3728, AIRCRAFT EQUIPMENT, N.E.C.													
United States		727	297	102.0	1,704.8	58.7	113.6	828.0	2,999.5	1,746.8	4,758.0	132.5	102.2	2,048.9
New England Division:														
Connecticut	(NA)	32	15	7.6	134.9	3.7	7.8	56.5	221.3	103.8	316.7	9.0	FF	(D)
Middle Atlantic Division:														
New York	(NA)	55	19	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
New Jersey	(NA)	18	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pennsylvania	(NA)	12	7	.9	14.1	.6	1.3	9.2	25.2	8.5	33.2	0.9	1.1	17.8
East North Central Division:														
Ohio	(NA)	42	26	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	10.3	185.1
Indiana	(NA)	10	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Illinois	(NA)	11	5	4.0	70.9	1.8	3.5	27.6	135.6	71.5	193.5	(D)	FF	(D)
Michigan	(NA)	26	11	2.0	31.3	1.2	2.4	16.7	52.5	48.8	99.5	(D)	1.8	25.6
West North Central Division:														
Minnesota	(NA)	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	(NA)	9	5	.5	6.2	.4	.7	4.6	9.3	5.3	15.0	.1	.4	6.1
North Dakota	(NA)	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Kansas	(NA)	39	19	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
Maryland	(NA)	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West Virginia		2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	(NA)	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Georgia	(NA)	4	3	.3	3.8	.3	.5	3.0	6.6	1.7	8.1	(D)	.2	-2.8
Florida	(NA)	29	9	1.8	23.1	1.4	2.8	15.0	42.9	21.0	65.6	2.0	EE	(D)
East South Central Division:														
Tennessee	(NA)	5	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
West South Central Division:														
Oklahoma	(NA)	13	6	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Texas	(NA)	38	13	2.1	27.0	1.6	3.0	18.2	53.5	25.9	77.8	(D)	EE	(D)
Mountain Division:														
Colorado	(NA)	14	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Arizona	(NA)	10	3	.2	2.5	.1	.2	1.3	5.1	3.6	8.4	.2	FF	(D)
Pacific Division:														
Washington		32	15	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Oregon	(NA)	4	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	(NA)	272	106	30.8	502.1	20.3	39.9	296.0	866.2	445.2	1,321.8	40.9	38.7	835.3
	INDUSTRY 3761, GUIDED MISSILES, SPACE VEHICLES													
United States		40	37	94.1	1,931.5	35.2	66.9	603.8	3,564.9	1,691.3	5,314.4	125.6	118.4	2,948.7
New England Division:														
Massachusetts	(NA)	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Middle Atlantic Division:														
Pennsylvania	(NA)	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Indiana		1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Michigan	(NA)	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
South Carolina		1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida		6	6	7.4	143.3	2.3	4.6	27.3	269.9	69.4	377.1	(D)	FF	(D)
East South Central Division:														
Alabama	(NA)	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mountain Division:														
Colorado	(NA)	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
New Mexico		1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Arizona		1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Utah	(NA)	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Washington		1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
California	(NA)	19	18	68.3	1,453.3	23.0	43.7	408.4	2,574.5	1,205.0	3,790.2	92.0	FF	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

(For explanation of terms, see appendix A)

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	New capital expenditures (mil. dol.)	All employees[2] (1,000)	Value added by manufacture (mil. dol.)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (millions)	Wages (mil. dol.)						
	INDUSTRY 3764, SPACE PROPULSION UNITS AND PARTS													
United States		26	23	17.0	333.6	5.9	12.6	95.5	586.8	295.2	886.9	24.1	20.8	506.6
Middle Atlantic Division:														
New York	(NA)	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East North Central Division:														
Ohio		1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Michigan	(NA)	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland		1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Virginia	(NA)	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Alabama	(NA)	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Texas	(NA)	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mountain Division:														
Arizona	(NA)	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	(NA)	2	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Pacific Division:														
Washington		1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California		9	9	7.6	155.0	2.3	4.9	38.9	283.3	134.6	417.2	(D)	FF	(D)
	INDUSTRY 3769, SPACE VEHICLE EQUIPMENT, N.E.C.													
United States		42	25	7.2	139.2	3.9	8.3	55.3	236.5	109.8	339.4	13.3	20.9	513.9
New England Division:														
Connecticut	(NA)	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Middle Atlantic Division:														
New York	(NA)	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pennsylvania		1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
South Atlantic Division:														
Maryland	(NA)	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Florida	(NA)	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East South Central Division:														
Alabama	(NA)	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Louisiana	(NA)	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Colorado	(NA)	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Arizona	(NA)	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	(NA)	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
California	(NA)	14	7	.8	12.3	.5	1.0	6.1	26.8	21.8	44.5	(D)	FF	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1--10 to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA--150 to 249 employees; BB--250 to 499 employees; CC--500 to 999 employees; EE--1,000 to 2,499 employees; FF--2,500 employees or more.

Table 3a. Summary Statistics for the Industry: 1977

(For explanation of terms, see appendix A)

Item	Aircraft (SIC 3721)	Aircraft engines and engine parts (SIC 3724)	Aircraft equipment, n.e.c. (SIC 3728)	Guided missiles and space vehicles (SIC 3761)	Space propulsion units and parts (SIC 3764)	Space vehicle equipment, n.e.c. (SIC 3769)
Primary product specialization ratio[1].....percent..	83	81	72	87	92	85
Coverage ratio[2].....do..	98	95	57	91	88	(D)
All establishments.....number.	176	269	727	40	26	42
With 1 to 19 employees.....do..	102	92	430	3	3	17
With 20 to 99 employees.....do..	20	97	178	2	5	14
With 100 or more employees.....do..	54	80	119	35	18	11
All employees, average for year.....1,000..	222.7	106.1	102.0	94.1	17.0	7.2
Payroll for year, all employees.....mil. dol..	3,975.9	1,939.4	1,704.8	1,931.5	333.6	139.2
Production workers:						
Average for year.....1,000.	119.0	62.4	58.7	35.2	5.9	3.9
March.....do..	119.6	60.7	57.0	34.7	5.7	3.7
May.....do..	119.0	61.7	57.6	34.9	5.9	3.8
August.....do..	120.2	62.3	58.8	35.4	5.9	4.0
November.....do..	117.2	64.6	61.2	35.8	6.0	4.0
Hours.....millions..	232.7	128.7	113.6	66.9	12.6	8.3
January to March.....do..	59.6	31.9	28.0	17.0	3.1	2.0
April to June.....do..	59.7	32.0	28.8	16.8	3.2	2.1
July to September.....do..	59.0	31.0	27.8	16.7	3.1	2.2
October to December.....do..	54.4	33.8	29.0	16.3	3.2	2.2
Wages.....mil. dol..	1,765.2	970.0	828.0	603.8	95.5	55.3
Cost of materials, etc.....do..	6,742.7	2,761.7	1,746.8	1,691.3	295.2	109.8
Materials, parts, containers, etc., consumed.....do..	6,092.2	2,232.6	1,470.3	1,368.7	265.8	84.7
Resales.....do..	335.4	235.5	35.2	[3]	[3]	[3]
Fuels consumed.....do..	35.5	32.4	16.1	6.2	5.9	.5
Purchased electric energy.....do..	77.6	54.5	40.3	36.6	10.4	3.0
Contract work.....do..	201.9	206.7	184.9	[3]279.9	[3]13.1	[3]21.8
Value of shipments, including resales.....do..	14,834.2	6,272.3	4,758.0	5,314.4	886.9	339.4
Value of resales.....do..	483.4	306.0	46.2	(D)	(D)	(D)
Value added by manufacture.....do..	8,134.1	3,599.2	2,999.5	3,564.9	586.8	236.5
Manufacturers' inventories:						
Beginning of year.....do..	6,550.7	1,375.2	1,251.5	653.1	143.4	22.0
Finished products.....do..	330.7	444.1	124.4	.5	1.0	2.2
Work in process.....do..	5,158.5	740.4	938.5	578.0	131.9	16.5
Materials, supplies, fuel, etc.....do..	1,061.5	190.7	188.5	74.4	10.5	3.5
End of year.....do..	6,618.5	1,440.2	1,242.2	600.2	139.5	29.9
Finished products.....do..	301.4	441.7	120.3	.8	1.0	2.0
Work in process.....do..	5,230.4	819.6	930.9	519.6	126.9	23.7
Materials, supplies, fuel, etc.....do..	1,086.7	179.0	191.0	79.8	11.6	4.2
Capital expenditures for plant and equipment.....do..	225.1	185.8	139.0	136.7	25.5	13.7
New capital expenditures.....do..	202.2	177.0	132.5	125.6	24.1	13.3
New buildings and other structures.....do..	40.2	25.4	24.9	21.8	5.0	.8
New machinery and equipment.....do..	161.9	151.6	107.6	103.8	19.1	12.5
Used capital expenditures.....do..	22.9	8.8	6.5	11.1	1.4	.4

(D) Withheld to avoid disclosing operations of individual companies.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Cost of resales and cost of contract work were combined in industries 3761, 3764, and 3769 to avoid disclosing operations of individual companies.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Aircraft (SIC 3721)		Aircraft engines and engine parts (SIC 3724)		Aircraft equipment, n.e.c. (SIC 3728)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	29.7	1	13.6	3	10.1	5
Response coverage ratio[2] (percent)	82	(X)	84	(X)	74	(X)
Machinery	35.2	1	24.2	2	15.1	14
Response coverage ratio[2] (percent)	90	(X)	83	(X)	76	(X)
Cost of purchased communication services	43.3	1	18.2	3	18.2	5
Response coverage ratio[2] (percent)	94	(X)	90	(X)	75	(X)
Rental payments	63.6	1	57.0	4	43.2	7
Buildings and other structures	28.0	1	8.9	9	15.2	8
Machinery and equipment	35.6	1	48.1	5	27.9	9
Supplemental labor costs	1,176.4	1	493.3	1	389.5	1
Legal costs	290.4	1	125.5	1	125.8	1
Voluntary costs	886.1	1	367.7	1	263.6	2
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	1,099.4	1	565.3	2	502.4	3
New capital expenditures	39.9	1	25.2	3	(26.2)	15
Used capital expenditures	8.6	1	1.0	1	(0.4)	52
Retirements	9.7	1	9.9	1	(15.1)	24
End of year	1,138.3	1	581.6	2	513.9	3
Machinery and equipment:						
Beginning of year	1,566.7	1	1,388.0	1	918.4	2
New capital expenditures	162.0	1	146.8	3	108.6	6
Automobiles, trucks, etc., for highway use[3]	(2.5)	(A)	(4.0)	(A)	(1.6)	(A)
Computers and peripheral data processing equipment[3]	(8.2)	(A)	(5.7)	(A)	(2.3)	(A)
All other[3]	150.4	13	(135.3)	15	(89.3)	22
New machinery and equipment, n.s.k.[4]	(1.0)	(A)	(1.9)	(A)	(15.4)	(A)
Used capital expenditures	14.0	7	(18.2)	66	6.6	13
Retirements	82.5	1	81.0	2	47.3	5
End of year	1,660.3	1	1,472.1	2	986.3	2
Total gross value of depreciable assets:						
Beginning of year	2,666.1	1	1,953.3	1	1,420.8	2
New capital expenditures	201.9	1	172.0	3	134.8	6
Used capital expenditures	22.7	5	(19.2)	62	7.1	12
Retirements	92.2	1	90.9	2	62.4	7
End of year	2,798.5	1	2,053.6	2	1,500.3	2
Depreciation charges during 1977	157.9	1	115.8	3	89.9	6
Buildings and other structures	48.4	1	19.0	1	16.5	5
Machinery and equipment	109.5	1	96.8	3	73.4	7

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Guided missiles and space vehicles (SIC 3761)		Space propulsion units and parts (SIC 3764)		Space vehicle equipment, n.e.c. (SIC 3769)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	11.7	1	3.3	1	(0.5)	88
Response coverage ratio[2] (percent)	70	(X)	72	(X)	32	(X)
Machinery	11.0	1	2.8	1	(0.8)	19
Response coverage ratio[2] (percent)	90	(X)	60	(X)	82	(X)
Cost of purchased communication services	27.7	1	5.3	1	(2.5)	16
Response coverage ratio[2] (percent)	91	(X)	90	(X)	82	(X)
Rental payments	45.6	1	6.4	1	4.8	3
Buildings and other structures	26.9	1	1.8	1	2.6	3
Machinery and equipment	18.6	1	4.6	1	2.3	2
Supplemental labor costs	473.8	1	75.2	1	29.3	1
Legal costs	122.4	1	20.7	1	9.5	1
Voluntary costs	351.4	1	54.5		19.8	1
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	352.9	1	144.3	1	31.7	2
New capital expenditures	21.8	1	5.0	1	0.8	6
Used capital expenditures	3.0	1	-	(X)	-	(X)
Retirements	2.3	1	1.4	1	7.5	1
End of year	375.4	1	147.8	1	25.1	3
Machinery and equipment:						
Beginning of year	626.3	1	205.5	1	53.3	2
New capital expenditures	103.7	1	20.2	1	12.1	3
Automobiles, trucks, etc., for highway use[3]	(0.9)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(20.6)	97	(D)	(A)	(D)	(A)
All other[3]	(81.8)	24	(18.9)	(A)	(10.6)	(A)
New machinery and equipment, n.s.k.[4]	0.3	(A)	-	(X)	(0.2)	(A)
Used capital expenditures	8.1	1	1.5	1	0.2	1
Retirements	34.3	1	9.5	1	2.1	10
End of year	703.8	1	217.7	1	63.6	1
Total gross value of depreciable assets:						
Beginning of year	979.2	1	349.7	1	85.1	2
New capital expenditures	125.5	1	25.2	1	12.9	3
Used capital expenditures	11.1	1	1.4	1	0.2	1
Retirements	36.6	1	10.9	1	9.5	3
End of year	1,079.2	1	365.4	1	88.7	1
Depreciation charges during 1977	70.2	1	19.7	1	5.0	2
Buildings and other structures	14.0	1	6.0	1	1.2	2
Machinery and equipment	56.2	1	13.7	1	3.8	2

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

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Table 4. Industry Statistics by Employment Size of Establishment: 1977

(For explanation of terms, see appendix A)

Industry and employment size class[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3721, AIRCRAFT											
Total....E[1]	176	222.7	3,975.9	119.0	232.7	1,765.2	8,134.1	6,742.7	14,834.2	202.2	6,618.5
Establishments with an average of-											
1 to 4 employees....E8	75	0.1	1.8	0.1	0.1	0.8	2.4	3.2	6.8	0.1	3.2
5 to 9 employees....E8	14	.1	1.4	.1	.1	.7	3.1	2.5	5.5	.1	2.6
10 to 19 employees....E8	13	.2	2.7	.1	.2	1.3	5.4	4.4	9.8	.1	4.2
20 to 49 employees....E3	14	.5	6.4	.3	.7	3.9	10.1	10.3	20.5	(5.0)	6.2
50 to 99 employees....	6	.5	7.0	.3	.6	3.6	6.1	10.2	15.6	(D)	4.7
100 to 249 employees....	9	1.3	16.4	1.0	1.9	12.0	43.8	29.0	56.3	.5	33.7
250 to 499 employees....	8	3.1	42.3	2.0	4.0	21.4	76.5	79.7	160.7	(5.5)	54.1
500 to 999 employees....	4	2.4	27.8	1.7	3.3	16.3	45.6	72.7	135.4	(D)	54.2
1,000 to 2,499 employees....	13	22.6	356.8	16.3	33.0	224.0	716.3	519.1	1,251.8	26.2	283.3
2,500 employees or more....	20	192.0	3,513.2	97.1	188.8	1,481.2	7,224.9	6,011.9	13,171.8	164.7	6,172.3
Covered by administrative records[2]....E0	79	.3	4.9	.2	.3	2.2	10.1	8.2	18.3	.2	8.4
INDUSTRY 3724, AIRCRAFT ENGINES AND ENGINE PARTS											
Total....	269	106.1	1,939.4	62.4	128.7	970.0	3,599.2	2,761.7	6,272.3	177.0	1,440.2
Establishments with an average of-											
1 to 4 employees....E7	45	.1	1.2	(Z)	.1	.6	2.1	1.9	4.4	.1	.9
5 to 9 employees....E7	20	.1	2.1	.1	.2	1.0	3.9	2.9	6.7	.2	1.4
10 to 19 employees....E6	27	.4	5.9	.2	.5	3.0	10.5	7.4	17.7	.6	3.6
20 to 49 employees....E1	55	1.9	28.5	1.4	2.9	17.3	48.7	26.0	74.1	3.5	12.7
50 to 99 employees....	42	3.1	43.0	2.1	4.3	25.1	79.2	61.5	137.0	4.4	28.3
100 to 249 employees....	40	6.6	93.3	4.5	9.6	59.2	183.2	133.2	313.3	9.8	74.0
250 to 499 employees....	14	4.9	74.4	3.4	6.4	44.4	145.4	91.3	239.6	8.9	63.2
500 to 999 employees....	9	6.4	95.1	4.4	8.2	58.3	200.3	146.0	347.9	10.7	75.0
1,000 to 2,499 employees....	7	10.8	176.3	8.2	16.4	125.1	327.2	184.5	515.3	21.2	131.3
2,500 employees or more....	10	71.9	1,419.7	38.0	80.1	635.9	2,598.7	2,107.1	4,616.2	117.5	1,049.7
Covered by administrative records[2]....E0	63	.4	6.6	.2	.5	3.2	12.0	9.3	21.3	.7	4.6
INDUSTRY 3728, AIRCRAFT EQUIPMENT, N.E.C.											
Total....	727	102.0	1,704.8	58.7	113.6	828.0	2,999.5	1,746.8	4,758.0	132.5	1,242.2
Establishments with an average of-											
1 to 4 employees....E9	237	.4	5.7	.3	.5	3.4	7.6	6.1	17.9	.5	5.3
5 to 9 employees....E8	98	.6	9.3	.4	.8	5.5	17.3	10.1	27.4	.7	8.4
10 to 19 employees....E7	95	1.3	19.9	.9	1.8	11.9	35.5	18.3	53.8	1.8	14.1
20 to 49 employees....E1	101	3.4	47.5	2.4	4.8	28.7	88.6	53.1	138.6	3.9	33.0
50 to 99 employees....E1	77	5.5	75.4	3.9	8.0	46.4	159.8	78.9	221.6	6.2	60.9
100 to 249 employees....	54	8.5	120.4	5.6	11.0	70.3	225.9	121.6	339.9	12.1	85.8
250 to 499 employees....	23	7.5	108.7	5.1	10.2	67.0	217.6	97.4	310.2	10.8	78.2
500 to 999 employees....	25	16.4	251.1	10.8	21.2	145.5	491.7	265.2	750.6	25.4	230.1
1,000 to 2,499 employees....	9	12.1	196.9	8.4	15.8	128.3	359.1	163.1	514.9	20.0	155.8
2,500 employees or more....	8	46.2	870.0	20.9	39.4	321.1	1,396.3	933.1	2,383.0	51.2	570.7
Covered by administrative records[2]....E0	355	1.8	27.1	1.2	2.3	15.9	51.0	26.6	77.6	2.0	23.1
INDUSTRY 3761, GUIDED MISSILES, SPACE VEHICLES											
Total....	40	94.1	1,931.5	35.2	66.9	603.8	3,564.9	1,691.3	5,314.4	125.6	600.2
Establishments with an average of-											
1 to 4 employees....E0	2	(.8)	(15.1)	(.3)	(.6)	(3.7)	(23.3)	(5.7)	(29.2)	(1.0)	(1.8)
5 to 9 employees....	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees....	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees....	8	2.8	49.5	1.3	2.5	17.4	74.8	28.4	104.0	.5	5.1
500 to 999 employees....	7	5.5	103.8	2.3	4.6	36.8	166.8	63.4	225.9	2.4	57.6
1,000 to 2,499 employees....	4	7.8	149.1	4.8	9.2	78.4	305.0	112.0	449.9	14.3	75.2
2,500 employees or more....	12	77.2	1,614.0	26.5	53.1	467.5	2,994.9	1,480.9	4,505.4	107.4	460.5
INDUSTRY 3764, SPACE PROPULSION UNITS AND PARTS											
Total....	26	17.0	333.6	5.9	12.6	95.5	586.8	295.2	886.9	24.1	139.5
Establishments with an average of-											
5 to 9 employees....E0	1	(Z)	(.7)	(Z)	(Z)	(.3)	(.9)	(.4)	(1.3)	(.1)	(.2)
10 to 19 employees....E5	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
50 to 99 employees....	3	.3	5.5	.2	.4	2.9	9.1	3.5	12.4	.1	.7
100 to 249 employees....	4	.8	13.1	.4	.9	5.7	24.7	18.6	46.0	(3.1)	10.5
250 to 499 employees....	4	1.3	27.3	.7	1.5	11.1	44.3	21.2	68.1	(D)	5.2
500 to 999 employees....	4	3.0	56.5	1.0	2.2	17.6	109.1	50.4	169.7	4.2	28.7
1,000 to 2,499 employees....	4	(11.6)	(230.5)	(3.5)	(7.6)	(57.8)	(398.6)	(201.1)	(589.4)	(16.6)	(94.3)
2,500 employees or more....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3769, SPACE VEHICLE EQUIPMENT, N.E.C.											
Total....	42	7.2	139.2	3.9	8.3	55.3	236.5	109.8	339.4	13.3	29.9
Establishments with an average of-											
1 to 4 employees....E1	7	(Z)	.2	(Z)	(Z)	.1	.4	.2	.6	(Z)	.1
5 to 9 employees....E8	5	(Z)	.6	(Z)	(Z)	.2	.2	.5	1.7	(Z)	.3
10 to 19 employees....E6	5	.1	1.1	(Z)	.1	.4	1.8	.7	2.4	.1	.3
20 to 49 employees....E2	7	.2	3.1	.1	.2	.9	5.4	3.9	9.3	.2	.9
50 to 99 employees....	7	.5	7.9	.4	.8	5.0	17.6	9.4	26.0	.3	3.7
100 to 249 employees....	7	2.1	29.8	1.6	3.3	19.6	55.7	39.1	89.0	2.1	20.2
250 to 499 employees....	2	(4.2)	(96.5)	(1.8)	(4.0)	(29.1)	(155.4)	(56.0)	(210.4)	(10.5)	(4.4)
1,000 to 2,499 employees....	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more....	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]....E0	8	.1	1.5	(Z)	.1	.4	2.5	.9	3.5	.1	.3

(D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown were estimated data based on administrative records data account for 10 percent or more of figures shown: E1--10 to 19 percent; E2--20 to 29 percent; E3--30 to 39 percent; E4--40 to 49 percent; E5--50 to 59 percent; E6--60 to 69 percent; E7--70 to 79 percent; E8--80 to 89 percent; E9--90 to 99 percent; E0--100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied to other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

Table 5a. Industry Statistics for Establishments by Industry and Primary Product Class Specialization: 1977

(Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary; excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A)

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3721	Aircraft:										
	Entire industry	176	222.7	3,975.9	119.0	232.7	1,765.2	8,134.1	6,742.7	14,834.2	202.2
	Establishments with 75 percent specialization or more	159	164.7	2,852.2	90.3	177.1	1,298.7	5,530.5	5,524.3	10,724.6	144.0
37211	Complete aircraft for U.S. military customers:										
	Establishments with this product class primary	13	100.6	1,919.3	48.0	95.1	787.1	3,565.5	2,861.0	6,518.3	77.9
	Establishments with 75 percent specialization or more	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37212	Complete aircraft, personal and utility type:										
	Establishments with this product class primary	27	43.0	575.3	31.2	63.0	382.9	1,346.9	1,248.1	2,646.6	39.0
	Establishments with 75 percent specialization or more	26	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37213	Complete aircraft, except personal and utility:										
	Establishments with this product class primary	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37214	Aircraft modifications, conversions, overhaul:										
	Establishments with this product class primary	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37216	Aeronautical services on complete aircraft, n.e.c.:										
	Establishments with this product class primary	8	17.6	348.3	7.2	14.4	116.2	1,217.7	239.6	1,463.6	17.3
	Establishments with 75 percent specialization or more	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3724	Aircraft engines and engine parts:										
	Entire industry	269	106.1	1,939.4	62.4	128.7	970.0	3,599.2	2,761.7	6,272.3	177.0
	Establishments with 75 percent specialization or more	232	75.5	1,311.5	44.2	89.3	626.0	2,587.8	1,723.7	4,305.2	134.4
37241	Aircraft engines for U.S. military customers:										
	Establishments with this product class primary	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37242	Aircraft engines for other than U.S. military:										
	Establishments with this product class primary	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37243	Aeronautical services on aircraft engines:										
	Establishments with this product class primary	17	9.6	183.2	4.1	8.4	60.8	170.4	424.1	572.3	9.6
	Establishments with 75 percent specialization or more	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37244	Aircraft engine parts and accessories:										
	Establishments with this product class primary	143	42.4	743.5	27.9	57.2	438.7	1,372.3	852.4	2,202.6	69.1
	Establishments with 75 percent specialization or more	113	19.9	293.7	14.3	28.3	188.2	517.2	310.9	849.0	32.6
3728	Aircraft equipment, n.e.c.:										
	Entire industry	727	102.0	1,704.8	58.7	113.6	828.0	2,999.5	1,746.8	4,758.0	132.5
	Establishments with 75 percent specialization or more	651	53.7	842.6	35.3	71.8	477.4	1,508.9	814.2	2,241.1	74.8
37281	Aircraft parts and accessories, n.e.c.:										
	Establishments with this product class primary	258	87.5	1,469.2	50.1	101.2	708.7	2,680.9	1,594.4	4,156.2	103.7
	Establishments with 75 percent specialization or more	198	47.6	754.9	31.1	63.4	423.4	1,331.9	724.7	1,975.3	64.3
37283	Research and development on aircraft parts:										
	Establishments with this product class primary	17	1.4	18.4	1.0	1.9	10.9	40.8	17.1	57.4	2.4
	Establishments with 75 percent specialization or more	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37285	Aircraft propellers, excluding helicopter rotors:										
	Establishments with this product class primary	7	6.8	124.6	3.1	6.7	49.9	202.6	105.0	301.0	10.8
	Establishments with 75 percent specialization or more	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 5a. Industry Statistics for Establishments by Industry and Primary Product Class Specialization: 1977—Con.

(Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary; excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A)

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3761	Guided missiles and space vehicles:										
	Entire industry	40	94.1	1,931.5	35.2	66.9	603.8	3,564.9	1,691.3	5,314.4	125.6
	Establishments with 75 percent specialization or more	30	78.3	1,633.3	27.4	52.0	470.6	2,875.7	1,369.9	4,314.6	(D)
37611	Guided missiles, complete:										
	Establishments with this product class primary	11	41.6	824.7	15.4	28.9	242.8	1,604.2	887.8	2,559.5	58.0
	Establishments with 75 percent specialization or more	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37612	Space vehicles and booster stages complete:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37613	Research and development on complete missiles:										
	Establishments with this product class primary	7	18.3	394.5	8.8	16.7	159.5	748.6	137.1	867.6	(D)
	Establishments with 75 percent specialization or more	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37614	Research and development on complete space vehicles:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37615	Missile, space vehicle services, except research and development:										
	Establishments with this product class primary	15	7.9	160.1	4.8	8.8	88.4	257.5	76.0	342.2	2.6
	Establishments with 75 percent specialization or more	10	6.4	135.9	3.9	7.2	75.6	223.7	46.8	278.2	(D)
3764	Space propulsion units and parts:										
	Entire industry	26	17.0	333.6	5.9	12.6	95.5	586.8	295.2	886.9	24.1
	Establishments with 75 percent specialization or more	21	14.5	286.7	4.9	10.7	81.8	514.1	260.5	782.6	(D)
37645	Missile and space vehicle propulsion units:										
	Establishments with this product class primary	10	6.7	135.9	2.3	4.7	36.8	237.0	116.2	345.0	9.2
	Establishments with 75 percent specialization or more	6	2.5	49.2	1.0	2.1	16.6	93.6	45.1	144.6	2.7
37646	Research and development on propulsion units:										
	Establishments with this product class primary	5	9.0	175.9	2.7	6.1	46.1	310.0	152.5	471.8	14.5
	Establishments with 75 percent specialization or more	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37647	Propulsion unit services, except research and development:										
	Establishments with this product class primary	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37648	Missile, space vehicle propulsion unit parts:										
	Establishments with this product class primary	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3769	Space vehicle equipment, n.e.c.:										
	Entire industry	42	7.2	139.2	3.9	8.3	55.3	236.5	109.8	339.4	13.3
	Establishments with 75 percent specialization or more	32	5.8	117.8	2.9	6.1	41.6	192.5	76.2	267.0	(D)
37692	Missile and space vehicle parts, n.e.c.:										
	Establishments with this product class primary	22	2.3	32.5	1.7	3.5	20.5	62.8	46.4	103.2	2.2
	Establishments with 75 percent specialization or more	13	.9	11.2	.7	1.3	6.8	18.8	12.8	30.8	(D)
37694	Research and development on parts, n.e.c.:										
	Establishments with this product class primary	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified.
(S) Withheld because estimate did not meet publication standards. (X) Not collected. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. Extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3721	Aircraft									
	1977	14,834.2	11,759.4	2,403.1	671.7	83	12,052.8	11,759.4	293.3	98
	1972	8,779.3	7,236.6	1,162.4	380.3	86	7,538.2	7,236.6	301.6	96
	1967	11,079.8	8,928.9	1,871.2	279.7	83	9,172.2	8,928.9	243.3	97
3724	Aircraft engines and engine parts									
	1977	6,272.3	4,756.6	1,115.0	400.7	81	4,994.6	4,756.6	238.0	95
	1972	3,640.2	2,891.1	417.4	331.7	87	3,069.7	2,891.1	178.6	94
	1967	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3728	Aircraft equipment, n.e.c.									
	1977	4,758.0	3,281.7	1,271.8	204.5	72	5,761.5	3,281.7	2,479.8	57
	1972	3,031.9	2,256.6	664.5	110.8	77	3,436.9	2,256.6	1,180.3	66
	1967	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3761	Guided missiles and space vehicles									
	1977	5,314.4	4,427.3	681.1	206.0	87	4,848.2	4,427.3	420.9	91
	1972	4,123.6	3,505.1	417.1	201.4	89	3,705.3	3,505.1	200.2	95
	1967	4,640.5	3,749.6	465.3	425.6	89	4,367.3	3,749.6	617.7	86
3764	Space propulsion units and parts									
	1977	886.9	815.3	68.2	3.4	92	930.1	815.3	114.8	88
	1972	716.3	645.7	63.6	7.0	91	740.3	645.7	94.6	87
	1967	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3769	Space vehicle equipment, n.e.c.									
	1977	339.4	(D)	(D)	(D)	85	882.4	(D)	(D)	(D)
	1972	788.2	562.5	153.6	72.1	79	825.4	562.5	262.9	68
	1967	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.

[1] Data not available because industry was created in 1972.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. This table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of the industries included in this chapter are shown. Read across to determine where the products of the industries in this chapter are produced. To the extent that some of the primary products are made in industries not included in this chapter, the value of such shipments is shown in the "All other industries" column. The specified "All other industries" are listed at the end of the table if they account for more than $5 million of the products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry, product class, and miscellaneous receipts	All industries	Aircraft (SIC 3721)	Aircraft engines and engine parts (SIC 3724)	Aircraft equipment, n.e.c. (SIC 3728)	Guided missiles and space vehicles (SIC 3761)	Space propulsion units and parts (SIC 3764)	Space vehicle equipment, n.e.c. (SIC 3769)	All other industries
	Total	(X)	14,834.2	6,272.3	4,758.0	5,314.4	886.9	339.4	(X)
	Primary products	(X)	11,759.4	4,756.6	3,281.7	4,427.3	815.3	(D)	(X)
	Secondary products	(X)	2,403.1	1,115.0	1,271.8	681.1	68.2	(D)	(X)
	Miscellaneous receipts	(X)	671.7	400.7	204.5	206.0	3.4	(D)	(X)
3721	Aircraft	12,052.8	11,759.4	(D)	(D)	36.2	-	-	(D)
37211	Complete aircraft for U.S. military customers	4,579.6	4,508.0	-	(D)	(D)	-	-	(D)
37212	Complete aircraft, personal and utility type	2,034.1	2,034.1	-	-	-	-	-	-
37213	Complete aircraft, except personal and utility	2,672.0	2,671.9	-	-	(D)	-	-	-
37214	Aircraft modifications, conversions, overhaul	747.2	(D)	(D)	47.1	(D)	-	(D)	(D)
37216	Aeronautical services on complete aircraft, n.e.c	1,988.2	1,823.0	(D)	(D)	(D)	-	-	(D)
37210	Aircraft, n.s.k	31.7	(D)	-	-	-	-	-	(D)
3724	Aircraft engines and engine parts	4,994.6	22.0	4,756.6	105.5	(D)	(D)	(D)	109.4
37241	Aircraft engines for U.S. military customers	1,047.9	-	1,047.4	-	(D)	-	-	(D)
37242	Aircraft engines for other than U.S. military	937.0	(D)	(D)	-	-	-	-	-
37243	Aeronautical services on aircraft engines	660.8	(D)	(D)	(D)	-	(D)	-	(D)
37244	Aircraft engine parts and accessories	2,308.5	(D)	2,080.9	105.4	-	-	(D)	(D)
37240	Aircraft engines and engine parts, n.s.k	40.4	-	36.0	(D)	-	-	-	(D)
3728	Aircraft equipment, n.e.c	5,761.5	2,093.8	132.5	3,281.7	40.5	17.8	12.0	183.4
37281	Aircraft parts and accessories, n.e.c	5,328.2	2,016.8	(D)	2,942.3	(D)	17.8	12.0	177.9
37283	Research and development on aircraft parts	161.4	77.0	(D)	76.5	(D)	-	-	(D)
37285	Aircraft propellers, excluding helicopter rotors	108.7	(Z)	(D)	102.9	(D)	-	-	(D)
37280	Aircraft equipment, n.e.c	163.2	-	(D)	160.0	-	-	-	(D)
3761	Guided missile and space vehicles	4,848.2	20.2	(D)	(D)	4,427.3	-	(D)	(D)
37611	Guided missiles, complete	1,685.5	(D)	-	(D)	1,472.2	-	-	(D)
37612	Space vehicles and booster stages, complete	822.1	(D)	-	(D)	800.2	-	(D)	-
37613	Research and development on complete missiles	871.5	(D)	-	(D)	772.2	-	(D)	-
37614	Research, development on complete space vehicles	918.1	4.4	(D)	(D)	(D)	-	-	(D)
37615	Missile, space vehicle services, except research and development	549.9	(D)	(D)	2.4	(D)	-	-	67.4
37610	Guided missile and space vehicles, n.s.k	1.1	-	-	-	1.1	-	-	-
3764	Space propulsion units and parts	930.1	(D)	(D)	6.2	(D)	815.3	-	20.9
37645	Missile and space vehicle propulsion units	370.6	-	(D)	-	(D)	323.7	-	(D)
37646	Research and development on propulsion units	345.8	-	(D)	-	(D)	340.3	-	-
37647	Propulsion unit services, except research and development	105.0	-	-	-	(D)	(D)	-	-
37648	Missile, space vehicle propulsion unit parts	105.6	(D)	(D)	6.2	(D)	(D)	-	(D)
37640	Space propulsion units and parts, n.s.k	3.1	-	-	-	(D)	2.3	-	(D)
3769	Space vehicle equipment, n.e.c	882.4	101.5	8.9	(D)	181.7	19.0	(D)	37.6
37692	Missile and space vehicle parts, n.e.c	420.0	71.7	8.9	(D)	113.0	8.7	(D)	(D)
37694	Research and development on parts, n.e.c	455.2	29.8	-	(D)	68.7	(D)	(D)	(D)
37690	Space vehicle equipment, n.e.c	7.2	-	-	(D)	-	(D)	5.0	(D)
	Other shipments by 4-digit product group:								
2531	Public building and related furniture	-	(D)	-	-	-	-	-	-
3069	Fabricated rubber products, n.e.c	-	-	-	(D)	-	-	-	-
3079	Miscellaneous plastics products	-	(D)	(D)	(D)	-	-	-	-
3321	Gray iron castings	-	-	(D)	-	-	-	-	-
3429	Hardware, n.e.c	-	-	-	(D)	-	-	-	-
3433	Heating equipment, except electric	-	-	-	(D)	(D)	-	-	-
3441	Fabricated structural metal	-	-	-	-	(D)	-	-	-
3443	Fabricated plate work (boiler shops)	-	-	(D)	(D)	(D)	-	-	-
3452	Bolts, nuts, rivets, and washers	-	-	-	(D)	-	-	-	-
3469	Metal stampings, n.e.c	-	(D)	(D)	(D)	(D)	.2	-	-
3483	Ammunition, except for small arms, n.e.c	-	-	(D)	(D)	(D)	(D)	-	-
3489	Ordnance and accessories, n.e.c	-	(D)	(D)	4.7	9.8	(D)	-	-
3494	Valves and pipe fittings	-	-	15.6	1.3	-	(D)	(D)	-
3499	Fabricated metal products, n.e.c	-	-	-	(D)	(D)	(D)	(D)	-
3511	Turbines and turbine generator sets	-	-	309.1	6.7	-	-	-	-
3519	Internal combustion engines, n.e.c	-	-	(D)	-	-	-	-	-
3531	Construction machinery	-	-	(D)	(D)	-	-	-	-
3541	Machine tools, metal cutting types	-	-	(D)	(D)	-	-	-	-
3542	Machine tools, metal forming types	-	-	(D)	(D)	-	-	-	-
3559	Special industry machinery, n.e.c	-	(D)	(D)	10.1	(D)	-	-	-
3561	Pumps and pumping equipment	-	-	(D)	(D)	-	-	-	-
3564	Blowers and fans	-	-	-	-	-	(D)	-	-
3568	Power transmission equipment, n.e.c	-	-	(D)	(D)	-	-	-	-
3573	Electronic computing equipment	-	-	-	7.9	-	(D)	(D)	-

See footnotes at end of table.

Table 5c. Industry -Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. This table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of the industries included in this chapter are shown. Read across to determine where the products of the industries in this chapter are produced. To the extent that some of the primary products are made in industries not included in this chapter, the value of such shipments is shown in the "All other industries" column. The specified "All other industries" are listed at the end of the table if they account for more than $5 million of the products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry, product class, and miscellaneous receipts	All industries	Aircraft (SIC 3721)	Aircraft engines and engine parts (SIC 3724)	Aircraft equipment, n.e.c. (SIC 3728)	Guided missiles and space vehicles (SIC 3761)	Space propulsion units and parts (SIC 3764)	Space vehicle equipment, n.e.c. (SIC 3769)	All other industries
	Other shipments by 4-digit product group--Con.								
3574	Calculating and accounting machines	-	-	-	(D)	-	-	-	-
3585	Refrigeration and heating equipment	-	-	-	(D)	-	-	-	-
3586	Measuring and dispensing pumps	-	-	-	(D)	-	-	-	-
3599	Machinery, except electrical, n.e.c.	-	-	2.2	4.7	-	(D)	(D)	-
3621	Motors and generators	-	-	(D)	7.5	-	-	-	-
3622	Industrial controls	-	-	-	(D)	(D)	-	-	-
3661	Telephone and telegraph apparatus	-	-	-	(D)	(D)	-	-	-
3662	Radio and TV communication equipment	-	73.0	(D)	27.5	153.4	(D)	(D)	-
3714	Motor vehicle parts and accessories	-	-	(D)	(D)	(D)	(D)	-	-
3716	Motor homes produced on purchased chassis	-	-	-	(D)	-	-	-	-
3731	Ship building and repairing	-	(D)	-	(D)	(D)	(D)	.3	-
3743	Railroad equipment	-	(D)	(D)	56.0	-	-	-	-
3795	Tanks and tank components	-	-	(D)	15.0	-	-	.4	-
3811	Engineering and scientific instruments	-	(D)	-	(D)	-	-	-	-
3825	Instruments to measure electricity	-	-	-	(D)	-	-	-	-
3829	Measuring and controlling devices, n.e.c.	-	(D)	(D)	(D)	-	-	(D)	-
3841	Surgical and medical equipment	-	(D)	-	(D)	-	-	2.0	-
3842	Surgical appliances and supplies	-	-	-	(D)	-	-	-	-
3861	Photographic equipment and supplies	-	-	-	(D)	-	-	-	-
	Miscellaneous receipts:								
9300000	Contract work	-	3.0	12.0	80.6	(D)	(D)	(D)	-
9998013	Sales of scrap and refuse	-	4.7	9.3	4.4	.4	(D)	(D)	-
9998031	Receipts for installation	-	(D)	(D)	(D)	-	(D)	(D)	-
9998041	Receipts for research and development not attributable to aircraft, missile, or space vehicle engines, parts, or systems	-	11.6	(D)	(D)	(D)	-	(D)	-
9998061	Receipts for repair work	-	(D)	(D)	51.9	(D)	(D)	(D)	-
9998098	Other miscellaneous receipts, except resales	-	155.4	(D)	2.6	23.9	(D)	(D)	-
9998900	Sales of products bought and sold without further manufacture, processing or assembly	-	483.4	306.0	46.2	(D)	(D)	(D)	-

1977 product code	Industry, product class, and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3724	3443 Fabricated plate work (boiler ships)	(D)
	3494 Valves and pipe fittings	(D)
	3511 Turbines and turbine generator sets	(D)
	3519 Internal combustion engines, n.e.c.	5.3
	3621 Motors and generators	7.7
	3678 Electronic connectors	(D)
	3714 Motor vehicle parts and accessories	18.7
3728	3069 Fabricated rubber products, n.e.c.	(D)
	3292 Asbestos products	(D)
	3494 Valves and pipe fittings	6.7
	3519 Internal combustion engines, n.e.c.	(D)
	3599 Machinery, except electrical, n.e.c.	11.8
	3662 Radio and TV communication equipment	37.0

1977 product code	Industry, product class, and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3278--Con.	3714 Motor vehicle parts and accessories	5.3
	3743 Railroad equipment	(D)
	3842 Surgical appliances and supplies	(D)
	3999 Manufacturing industries, n.e.c.	(D)
3761	3662 Radio and TV communication equipment	(D)
3764	3079 Miscellaneous plastics products	(D)
	3662 Radio and TV communication equipment	(D)
3769	3443 Fabricated plate work (boiler shops)	(D)
	3483 Ammunition, except for small arms, n.e.c.	(D)
	3662 Radio and TV communication equipment	15.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	AIRCRAFT			
3721- --	Total	(NA)	12,052.8	7,538.2
37211 --	Complete aircraft for U.S. military customers	(NA)	4,579.6	2,802.9
37211 21	Fixed-wing aircraft	13	4,579.5	2,565.6
37211 23	Helicopters, autogiros, and other VTOL vehicles	5		235.3
37211 28	Gliders, balloons, and other aircraft, n.e.c.	-	-	2.0
37211 00	Complete aircraft, military type, n.s.k.	(NA)	.1	
37212 --	Complete aircraft, personal and utility type, for other than U.S. military customers:			
37212 00	Complete aircraft, personal and utility type, for other than U.S. military customers	25	[2]2,034.1	[2]474.2
37213 --	Complete aircraft, commercial transport type, for other than U.S. military customers:			
37213 00	Complete aircraft, commercial transport type, for other than U.S. military customers	4	[2]2,672.0	[2]2,787.3
37214 --	Modifications, conversions, and overhaul of previously accepted aircraft	(NA)	747.2	373.9
37214 11	For U.S. military customers	18	466.7	319.1
37214 51	For other than U.S. military customers	27	280.5	54.8
37214 00	Modifications, conversions, and overhaul of previously accepted aircraft, n.s.k.	(NA)	(Z)	-
37216 --	Aeronautical services on complete aircraft, n.e.c., including research and development	(NA)	1,988.2	1,067.1
	For U.S. military customers:			
37216 13	Research and development on complete aircraft	11	776.3	563.7
37216 15	All other aeronautical services on complete aircraft	13	952.1	334.0
	For other than U.S. miltary customers:			
37216 53	Research and development on complete aircraft	4	259.8	169.4
37216 55	All other aeronautical services on complete aircraft	18		
37216 00	Aeronautical services on complete aircraft, n.e.c., n.s.k.	(NA)	-	-
37210 00	Aircraft, n.s.k., typically for establishments with 20 employees or more (see note).	(NA)	13.4	30.0
37210 02	Aircraft, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	18.3	2.8
	AIRCRAFT ENGINES AND ENGINE PARTS			
3724- --	Total	(NA)	4,994.6	3,069.7
37241 --	Aircraft engines for U.S. military customers	(NA)	1,047.9	437.1
37241 11	Reciprocating	1	([3])	
37241 14	Turbo-jet and turbo-fan	6	[4]1,046.3	437.1
37241 17	Turbo-prop and turbo-shaft	4		
37241 39	Other, including JATO bottles and liquid power plants, but excluding missile engines	1	([3])	
37241 00	Aircraft engines for U.S. military customers, n.s.k.	(NA)	[3]1.6	
37242 --	Aircraft engines for other than U.S. military customers:			
	As reported in census of manufactures	11	937.0	609.2
	As reported in Current Industrial Reports M37G, Complete Aircraft and Aircraft Engines	(NA)	915.8	584.5
37243 --	Aeronautical services on aircraft engines	(NA)	660.8	692.1
	Research and development work on aircraft engines, including work done for affiliates and other establishments of the same company:			
37243 21	For U.S. military customers	12	457.4	498.6
37243 23	For other than U.S. military customers	8	25.8	24.6
	All other aeronautical services on aircraft engines:			
37243 31	For U.S. military customers	8	48.4	39.1
37243 33	For other than U.S. military customers	17	125.9	129.8
37243 00	Aeronautical services on aircraft engines, n.s.k.	(NA)	3.3	-
37244 --	Aircraft engine parts and accessories	(NA)	2,308.5	1,306.7
37244 13	For U.S. military customers	105	905.6	594.4
37244 53	For other than U.S. military customers	132	1,372.3	663.7
37244 00	Aircraft engine parts and accessories, n.s.k.	(NA)	30.6	48.6
37240 00	Aircraft engines and engine parts, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	19.1	23.1
37240 02	Aircraft engines and engine parts, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	21.3	1.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	AIRCRAFT EQUIPMENT, N.E.C.			
3728- --	Total	(NA)	5,761.5	3,436.9
37281 --	Aircraft parts and auxiliary equipment, n.e.c.	(NA)	5,328.2	3,169.1
	Aircraft and related engine and power takeoff gears:			
37281 13	For U.S. military customers	10	286.1	324.9
37281 15	For other than U.S. military customers	11	83.9	146.1
	Aircraft hydraulic subassemblies:			
37281 73	For U.S. military customers	39	150.3	55.0
37281 75	For other than U.S. military customers	38	142.3	83.6
	Aircraft pneumatic subassemblies:			
37281 83	For U.S. military customers	15	34.1	23.5
37281 85	For other than U.S. military customers	18	110.3	56.9
	Aircraft landing gear:			
37281 94	For U.S. military customers	16	85.0	(5)
37281 95	For other than U.S. military customers	17	144.9	(5)
	Other aircraft subassemblies and parts:			
37281 96	For U.S. military customers	125	2,184.0	5997.2
37281 97	For other than U.S. military customers	178	2,035.2	51,349.5
37281 00	Aircraft parts and auxiliary equipment, n.e.c., n.s.k.	(NA)	72.1	132.4
37283 --	Research and development on aircraft parts	(NA)	161.4	99.4
37283 13	For U.S. military customers	30	125.5	68.6
37283 15	For other than U.S. military customers	23	34.9	30.8
37283 00	Research and development on aircraft parts, n.s.k.	(NA)	1.0	-
37285 --	Aircraft propellers and propeller parts, excluding helicopter rotors[6]	(NA)	108.7	58.3
37285 10	Complete aircraft propellers	7	48.6	45.8
37285 31	Propeller blades	6	3.9	3.2
37285 51	Propeller parts, except blades	8	55.9	9.3
37285 00	Aircraft propellers and propeller parts, n.s.k.	(NA)	.3	-
37280 00	Aircraft parts and auxiliary equipment, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	85.6	93.5
37280 02	Aircraft parts and auxiliary equipment, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	77.6	16.6
	GUIDED MISSILES AND SPACE VEHICLES			
3761- --	Total	(NA)	4,848.2	3,705.3
	Guided missiles, complete, excluding propulsion units:			
37611 11	Guided missiles, complete, excluding propulsion units	10	1,685.5	1,246.3
37612 --	Space vehicles and booster stages, complete, excluding propulsion units	(NA)	822.1	754.9
	Complete space vehicles for U.S. Government military customers:			
37612 21	Unmanned	6	725.7	426.9
37612 23	Manned	2		
37612 27	Booster stages, excluding engines	1		
	Complete space vehicles for U.S. Government nonmilitary customers:			
37612 31	Unmanned	4	(7)	328.0
37612 33	Manned	-	-	
37612 37	Booster stages, excluding engines	1	796.4	
37612 00	Space vehicles and booster stages, complete, excluding propulsion units, n.s.k.	(NA)	-	-
37613 --	Research and development on complete missiles:			
37613 11	Research and development on complete missiles	11	871.5	660.8
37614 --	Research and development on complete space vehicles	(NA)	918.1	599.7
37614 13	For U.S. Government military customers	9	918.1	78.1
37614 15	For U.S. Government nonmilitary customers	9		521.6
37614 00	Research and development on complete space vehicles, n.s.k.	(NA)	-	-
37615 --	Services, except research and development, on complete missiles and space vehicles	(NA)	549.9	440.1
37615 11	Services, except research and development, on complete missiles	10	165.2	132.2
	Services, except research and development, on complete space vehicles:			
37615 13	For U.S. Government military customers	10	302.5	92.9
37615 15	For U.S. Government nonmilitary customers	8	82.2	135.0
37615 23	For nongovernment customers	3		80.0
37615 00	Services, except research and development, on complete missiles and space vehicles, n.s.k.	(NA)	-	-
37610 00	Guided missiles and space vehicles, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	1.1	3.5
37610 02	Guided missiles and space vehicles, n.s.k., typically for establishments with less than 20 employees (see note)	-	-	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	SPACE PROPULSION UNITS AND PARTS			
3764- --	Total	(NA)	930.1	740.3
37645 --	Missile or space vehicle engines and/or propulsion units, complete	(NA)	370.6	434.6
37645 11	For U.S. Government military customers	11	276.7	407.2
37645 13	For U.S. Government nonmilitary customers	9	93.9	27.4
37645 00	Missile or space vehicle engines and/or propulsion units, complete, n.s.k.	(NA)	-	
37646 --	Research and development on complete missile or space vehicle engines and/or propulsion units	(NA)	345.8	143.4
37646 11	For U.S. Government military customers	8	345.8	89.2
37646 13	For U.S. Government nonmilitary customers	4		
37646 00	Research and development on complete missile or space vehicle engines and/or propulsion units, n.s.k.	(NA)	-	54.2
37647 --	Services, except research and development, on complete missile or space vehicle engines and/or propulsion units	(NA)	105.0	115.0
37647 11	For U.S. Government military customers	7	105.0	115.0
37647 13	For U.S. Government nonmilitary customers	4		
37647 00	Services, except research and development, on complete missile or space vehicle engines and/or propulsion units, n.s.k.	(NA)	-	-
37648 --	Missile and space vehicle engine and/or propulsion unit parts and accessories	(NA)	105.6	47.1
37648 11	For U.S. Government military customers	22	75.7	34.4
37648 13	For U.S. Government nonmilitary customers	18	26.2	10.5
37648 00	Missile and space vehicle engine and/or propulsion unit parts and accessories, n.s.k.	(NA)	3.7	2.2
37640 00	Space propulsion units and parts, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	3.1	.2
37640 02	Space propulsion units and parts, n.s.k., typically for establishments with less than 20 employees (see note)	-	-	-
	SPACE VEHICLE EQUIPMENT, N.E.C.			
3769- --	Total	(NA)	882.4	825.4
37692 --	Missile and space vehicle parts and subassemblies, n.e.c.	(NA)	420.0	418.7
	For U.S. Government military customers:			
37692 11	Airframes	14	[8]21.8	95.2
37692 13	Space capsules	8	[8]55.3	
37692 19	All other	42	163.9	231.8
	For U.S. Government nonmilitary customers:			
37692 21	Airframes	5	[8]13.7	16.3
37692 23	Space capsules	2		3.6
37692 29	All other	19	84.3	11.3
	For nongovernment customers:			
37692 31	Airframes	3	[8]21.2	45.1
37692 33	Space capsules	3		
37692 39	All other	15	47.5	
37692 00	Missile and space vehicle parts and subassemblies, n.e.c., n.s.k.	(NA)	12.3	15.4
37694 --	Research and development on missile and space vehicle parts and components, n.e.c.	(NA)	455.2	406.7
	For U.S. Government military customers:			
37694 11	Airframes	5	84.8	4.5
37694 13	Space capsules	3		219.8
37694 19	All other	19	177.0	
	For U.S. Government nonmilitary customers:			
37694 21	Airframes	3		
37694 23	Space capsules	2	148.0	
37694 29	All other	7		
	For nongovernment customers:			174.2
37694 31	Airframes	1		
37694 33	Space capsules	1	45.0	
37694 39	All other	9		
37694 00	Research and development on missile and space vehicle parts and components, n.e.c., n.s.k.	(NA)	.4	8.2
37690 00	Space vehicle equipment, n.e.c., n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	3.7	-
37690 02	Space vehicle equipment, n.e.c., n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	3.5	-

Footnotes are on next page.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

Note: In 1977 Census of Manufactures, shipments data for establishments of small companies, typically those with less than 20 employees, were estimated from administrative records data rather than collected from respondents. These shipments figures (discussed in appendix A) are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded to appropriate product class (5 digits) followed by "00," or in some cases to appropriate industry (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (X) Not collected. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.
[2]Comparable combined figure for personal and utility type and commercial transport type complete aircraft reported in Current Industrial Reports M37G, Complete Aircraft and Aircraft Engines, was $4,700.9 million in 1977 and $3,231.8 million in 1972.
[3]For 1977, product codes 37241 11, 37241 39, and 37241 00 were combined to avoid disclosing operations of individual companies.
[4]For 1977, number of turbo-jet and turbo-prop aircraft engines shipped was 2,081.
[5]For 1972, product codes 37281 94 and 37281 95 were included in product codes 37281 96 and 37281 97, respectively.
[6]Data on aircraft propellers are published annually in Current Industrial Reports MA-37E, Aircraft Propellers.
[7]For 1977, product codes 37612 31 and 37612 37 were combined to avoid disclosing operations of individual companies.
[8]For product codes 37692 11, 37692 13, 37692 21, 37692 23, 37692 31, and 37692 33, quantity data were collected but did not meet Bureau statistical standards and have been suppressed.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(This table cannot be published due to the significant number of disclosures at the product class by State level)

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3721-	Aircraft	12,052.8	11,723.0	10,880.5	10,363.6	9,486.1	7,538.2	9,172.2	4,330.5
37211	Complete aircraft for U.S. military customers	4,579.6	4,670.5	4,016.6	3,186.4	2,883.5	2,802.9	4,408.0	2,470.3
37212	Complete aircraft, personal and utility type	2,034.1	1,203.5	1,002.7	811.0	870.3	474.2	3,504.9	157.8
37213	Complete aircraft, except personal and utility	2,672.0	3,355.2	3,652.8	4,206.9	3,873.0	2,787.3		561.1
37214	Aircraft modifications, conversions, overhaul	747.2	754.9	516.5	495.0	410.4	373.9	596.8	465.5
37216	Aeronautical services on complete aircraft, n.e.c.	1,988.2	1,728.8	1,689.2	1,650.2	1,424.7	1,067.1	635.2	668.4
37210	Aircraft, n.s.k.	31.7	(S)	(S)	14.1	24.2	32.8	27.3	7.5
3724-	Aircraft engines and engine parts	4,994.6	4,927.7	4,488.0	4,026.1	3,686.7	3,069.7	3,759.8	2,120.5
37241	Aircraft engines for U.S. military customers	1,047.9	1,128.2	801.3	540.8	553.4	437.1	1,087.6	644.4
37242	Aircraft engines for other than U.S. military	937.0	873.9	991.9	1,002.5	847.6	609.2	690.7	150.0
37243	Aeronautical services on aircraft engines	660.8	716.4	642.6	683.1	752.1	692.1	526.5	385.3
37244	Aircraft engine parts and accessories	2,308.5	2,186.3	2,032.8	1,778.7	1,516.3	1,306.7	1,422.9	932.1
37240	Aircraft engines and engine parts, n.s.k.	40.4	(S)	(S)	(21.0)	17.3	24.6	31.8	8.7
3728-	Aircraft equipment, n.e.c.	5,761.5	5,101.5	4,842.4	4,457.5	4,074.2	3,436.9	4,465.0	2,471.3
37281	Aircraft parts and accessories, n.e.c.	5,328.2	4,852.1	4,598.3	4,252.0	3,788.0	3,169.1	4,085.4	2,215.3
37283	Research and development on aircraft parts	161.4	142.6	141.4	98.3	115.6	99.4	85.7	74.3
37285	Aircraft propellers, excluding helicopter rotors	108.7	87.4	90.3	79.2	72.2	58.3	119.5	109.0
37280	Aircraft equipment, n.e.c., n.s.k.	163.2	(S)	(S)	(28.0)	98.4	110.1	174.4	72.5
3761-	Guided missiles and space vehicles	4,848.2	4,464.4	4,553.6	4,312.3	4,076.2	3,705.3	4,367.3	4,032.8
37611	Guided missiles, complete	1,685.5	1,505.9	1,538.1	1,535.2	1,450.2	1,246.3	815.7	1,719.8
37612	Space vehicles and booster stages, complete	822.1	860.3	966.6	812.2	886.3	754.9	1,203.2	
37613	Research and development on complete missiles	871.5	760.0	727.3	766.1	674.4	660.8	867.3	1,628.2
37614	Research, development on complete space vehicles	918.1	819.2	757.7	744.9	597.1	599.7	743.6	
37615	Missile, space vehicle services, except research and development	549.9	518.6	563.0	449.0	466.5	440.1	734.7	684.7
37610	Guided missile and space vehicles, n.s.k.	1.1	.4	.9	4.9	1.7	3.5	2.9	-
3764-	Space propulsion units and parts	930.1	880.7	907.2	893.1	870.0	740.3	1,054.0	1,488.9
37645	Missile and space vehicle propulsion units	370.6	451.9	517.5	579.2	583.6	434.6	451.7	582.6
37646	Research and development on propulsion units	345.8	287.1	257.7	204.5	174.1	143.4	389.1	696.8
37647	Propulsion unit services, excluding research and development	105.0	92.9	84.8	69.7	71.2	115.0	88.4	61.7
37648	Missile, space vehicle propulsion unit parts	105.6	48.7	46.8	39.7	38.9	47.1	93.9	147.8
37640	Space propulsion units and parts, n.s.k.	3.1	.1	.4	-	2.2	.2	30.9	(NA)
3769-	Space vehicle equipment, n.e.c.	882.4	1,212.7	1,162.7	876.9	770.0	825.4	1,077.2	1,429.7
37692	Missile and space vehicle parts, n.e.c.	420.0	620.5	542.9	435.0	380.0	418.7	674.0	1,009.3
37694	Research and development on parts, n.e.c.	455.2	591.5	619.1	441.9	390.0	406.7	403.2	420.4
37690	Space vehicle equipment, n.e.c., n.s.k.	7.2	.7	.7	-	(Z)	-	(NA)	(NA)

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3721, AIRCRAFT					
3721--	Materials, parts, containers, and supplies	.....	(X)	6,092.2	(X)	3,685.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	6.5	2.4	1.3
331012	Sheet and strip	1,000 s. tons..	(S)	4.9	2.3	.7
331013	Plates	1,000 s. tons..	21.0	20.7	3.3	1.3
331015	Structural shapes	1,000 s. tons..			1.8	.5
331017	Wire and wire products	1,000 s. tons..			.9	.5
331019	All other carbon steel mill shapes and forms	1,000 s. tons..				
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s. tons..	(S)	5.2	2.5	2.9
331029	All other alloy steel mill shapes and forms	1,000 s. tons..	2.2	3.0	2.0	1.5
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons..	**1.5	5.8	2.4	6.0
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	9.3		
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content).	(S)	21.7	1.5	11.4
335793	Aluminum	Mil. lb (aluminum content).	(S)	.4		
335770	Magnet wire	Million lb.....	(D)	(D)	(X)	(2)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(S)	1.7	.5	.6
335143	Plate, sheet, and strip, including military cups and discs	Million lb.....	(S)	1.6	.4	.4
335152	Pipe and tube	Million lb.....				
335728	Bare wire for electrical conduction only	Million lb.....	**.4	.7	1.7	1.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.....	**80.9	99.1	56.6	45.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc	Million lb.....	**27.3	63.2	25.3	32.3
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	3.2	7.9	4.9	6.0
335601	Titanium and titanium-base alloy	Thousand lb....	(S)	28.3	2.0	16.3
339915	Metal powders	Million lb.....	(D)	(D)	(X)	(2)
	Castings, rough and semifinished:					
332045	Steel:					
	Purchased	1,000 s. tons..	(S)	5.5	1.1	4.7
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	**8.7	34.2	9.2	19.7
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased	Million lb.....	(S)	.3	.1	.3
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 s. tons..	(S)	27.9	1.3	4.7
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	**7.9	45.5	12.4	26.3
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
346326	Titanium and titanium-base alloy:					
	Purchased	Million lb.....	*1.9	37.0	1.1	12.4
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3721, AIRCRAFT--Con.					
	Electric motors and generators:					
	Fractional horsepower electric motors under 1 hp:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(S)	.5	2.0	.4
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		**22.7	3.6	6.3	.6
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators, 1 hp and over:					
	Purchased		(D)	(D)	4.7	1.5
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	15.0	(X)	3.3
356201	Roller		(X)	8.3	(X)	1.7
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment		(X)	65.7	(X)	32.6
220129	Broadwoven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Mil. lin. yd	(S)	19.2	(S)	8.5
345001	Bolts, nuts, screws, rivets, washers, and screw machine products		(X)	123.8	(X)	[3]65.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	30.2	(X)	[3]27.0
366211	Radio and electronic communication equipment and navigation aids, airborne transmitters and receivers, radar, electronic-type fire control equipment, etc		(X)	620.9	(X)	[3]621.0
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except electron tubes and semiconductors		(X)	161.9	(X)	[3]184.0
383241	Sighting, tracking, and fire control equipment, optical type		(X)	23.2	(X)	[3]53.0
970099	All other materials and components, parts, containers, and supplies		(X)	4,475.5	(X)	[2]2,447.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	88.3	(X)	43.4
	INDUSTRY 3724, AIRCRAFT ENGINES AND ENGINE PARTS					
	Materials, parts, containers, and supplies		(X)	2,232.6	(X)	1,451.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	**5.2	3.8	5.6	3.3
331012	Sheet and strip		6.4	4.6	7.1	2.9
331013	Plates		3.5	1.8	2.8	1.2
331015	Structural shapes		2.9	2.7	66.1	34.0
331017	Wire and wire products				2.4	1.6
331019	All other carbon steel mill shapes and forms		**3.1	3.1	.7	.3
	Alloy steel, except stainless:					
331021	Bars and bar shapes		19.5	40.0	17.5	11.7
331029	All other alloy steel mill shapes and forms		2.8	23.0	3.8	12.8
	Stainless steel:					
331033	Sheet and strip		3.8	13.8	3.6	16.0
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	13.9	3.6	8.1
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content)	**.9	1.5	.5	.6
335793	Aluminum	Mil lb (aluminum content)	(D)	(D)		
335770	Magnet wire	Million lb	(D)	(D)	(X)	([5])
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	.2	.6	.7
335143	Plate, sheet, and strip, including military cups and discs		.7	.6	1.2	1.2
335152	Pipe and tube		(S)	.1	1.2	1.8
335728	Bare wire (for electrical conduction only)		(D)	(D)	-	-
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**1.8	1.8	.5	.5
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(S)	7.0	1.0	1.3
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(S)	1.1	9.4	3.0
335601	Titanium and titanium-base alloy	Thousand lb	1.8	16.3	.8	5.9
339915	Metal powders	Million lb	9.2	4.5	(X)	([5])
	Castings, rough and semifinished:					
332045	Steel:					
	Purchased	1,000 s. tons	47.3	112.4	(S)	49.1
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	*29.8	57.3	21.6	35.6
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		.8	3.7	.5	.6
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 s. tons	30.5	106.1	30.0	76.9
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	4.6	2.8	3.1
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3724, AIRCRAFT ENGINES AND ENGINE PARTS--Con.					
	Forgings--Con.					
346326	Titanium and titanium-base alloy:					
	Purchased	Million lb	**9.8	62.6	12.8	50.8
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(S)	2.7	15.1	.3
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		(D)	(D)	(Z)	(Z)
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(D)	(D)	(Z)	(Z)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	23.5	(X)	7.7
356201	Roller		(X)	21.9	(X)	6.4
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment		(X)	(D)	(X)	5.5
220129	Broad woven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Mil. lin. yd	(D)	(D)	(S)	.1
345001	Bolts, nuts, screws, rivets, washers, and screw machine products		(X)	27.9	(X)	[3]15.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	1.0	(X)	([5])
366211	Radio and electronic communication equipment and navigation aids, airborne transmitters and receivers, radar, electronic-type fire control equipment, etc.		(X)	(D)	(X)	([5])
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except electron tubes and semiconductors		(X)	13.1	(X)	[3]2.0
383241	Sighting, tracking, and fire control equipment, optical type		(X)	(D)	(X)	([5])
970099	All other materials and components, parts, containers, and supplies		(X)	1,575.9	(X)	[5]1,065.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	54.6	(X)	25.7
	INDUSTRY 3728, AIRCRAFT EQUIPMENT, N.E.C.					
	Materials, parts, containers, and supplies		(X)	1,470.3	(X)	868.9
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	8.0	14.8	4.2
331012	Sheet and strip		*2.8	1.7	8.4	4.1
331013	Plates		*5.8	3.3	3.1	.9
331015	Structural shapes		1.0	.5	8.8	1.7
331017	Wire and wire products		**.8	.5	(S)	.5
331019	All other carbon steel mill shapes and forms		(S)	4.5	1.5	.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes		*14.7	17.0	6.2	5.0
331029	All other alloy steel mill shapes and forms		7.7	8.3	7.1	8.4
	Stainless steel:					
331033	Sheet and strip		(S)	9.1	9.6	23.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	9.1	4.0	7.9
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content)	.7	1.7	6.7	8.5
335793	Aluminum	Mil. lb (aluminum content)				
335770	Magnet wire	Million lb	**.3	.6	(X)	([6])
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	*.7	1.4	.9	.9
335143	Plate, sheet, and strip, including military cups and discs		.1	.3	.4	.4
335152	Pipe and tube		*.4	.7	2.3	.9
335728	Bare wire for electrical conduction only		.2	.2	.1	.2
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	22.4	31.1	26.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.		(S)	29.8	29.7	38.0
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	*3.8	5.3	(S)	10.0
335601	Titanium and titanium-base alloy	1,000 lb	(S)	6.6	(S)	18.5
339915	Metal powders	Million lb	(D)	(D)	(X)	([6])
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons	**10.3	17.1	23.9	21.3
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	20.0	12.4	21.9
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	2.8	.3	.5
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 s. tons	21.8	31.9	22.9	26.6
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3728, AIRCRAFT EQUIPMENT, N.E.C.--Con.					
	Forgings--Con.					
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	(S)	30.8	7.6	17.0
	Produced and consumed		(S)	(X)	(S)	(X)
346326	Titanium and titanium-base alloy:					
	Purchased		(S)	4.2	.5	4.9
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(D)	(D)	(S)	.9
	Produced and consumed		(D)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors (excluding timing motors):					
	Purchased		(S)	2.0	26.7	2.0
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators (1 hp and over):					
	Purchased		(S)	3.3	6.7	2.0
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	9.3	(X)	7.8
356201	Roller		(X)	3.9	(X)	7.1
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment		(X)	9.2	(X)	2.5
220129	Broad woven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Million lin. yd.	(S)	4.5	4.3	8.1
345001	Bolts, nuts, screws, rivets, washers, and screw machine products		(X)	33.7	(X)	[3]38.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	2.6	(X)	[3]7.0
366211	Radio and electronic communication equipment and navigation aids, airborne transmitters and receivers, radar, electronic-type fire control equipment, etc		(X)	(D)	(X)	([6])
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except electron tubes and semiconductors		(X)	30.0	(X)	[3]38.0
383241	Sighting, tracking, and fire control equipment, optical type		(X)	(D)	(X)	([6])
970099	All other materials and components, parts, containers, and supplies		(X)	963.3	(X)	[6]456.8
971000	Materials, parts, containers, and supplies, n.s.k.[4]		(X)	163.4	(X)	45.5
	INDUSTRY 3761, GUIDED MISSILES AND SPACE VEHICLES					
	Materials, parts, containers, and supplies		(X)	1,368.7	(X)	923.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	**1.0	.6		
331012	Sheet and strip					
331013	Plates					
331015	Structural shapes		(S)	7.3	(S)	15.5
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	.5	14.6	11.3
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip		(S)	1.6	.4	1.1
331050	All other stainless steel mill shapes and forms	1,000 s. tons			.3	.7
	Insulated wire and cable, except magnet wire:					
335792	Copper	Million lb. (copper content).	.3	2.3	-	-
335793	Aluminum	Million lb. (aluminum content).	(S)	.1	.8	2.2
335770	Magnet wire	Million lb.	(D)	(D)	-	-
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes					
335143	Plate, sheet, and strip, including military cups and discs		(S)	.1	(S)	.4
335152	Pipe and tube					
335728	Bare wire for electrical conduction only				(D)	(D)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**2.6	3.3	4.5	3.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		*1.9	1.4		
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.	**.2	.2	3.8	4.5
335601	Titanium and titanium-base alloy	Thousand lb.	48.9	.6	-	-
339915	Metal powders	Million lb.	(D)	(D)	-	-
	Castings, rough and semifinished:					
332045	Steel:					
	Purchased	1,000 s. tons	(S)	1.5	.2	.4
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	**1.8	4.2	2.1	2.8
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(D)	(D)	-	-
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3761, GUIDED MISSILES AND SPACE VEHICLES--Con.					
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 s. tons	3.2	.8	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	6.4	1.8	1.1	2.1
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346326	Titanium and titanium-base alloy:					
	Purchased	Million lb	81.1	1.4	-	-
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors under 1 hp:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	**11.1	1.5	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased	Thousands	(D)	(D)	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators, 1 hp and over:					
	Purchased	Thousands	-	-	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	1.1	(X)	.8
356201	Roller	.....	(X)	.5		
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment	.....	(X)	25.3	-	-
220129	Broad woven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Million lin. yd.	(D)	(D)	-	-
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	7.0	(X)	[3]20.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	2.1	(X)	[3]4.0
366211	Radio and electronic communication equipment, and navigation aids; airborne transmitters and receivers, radar, electronic-type fire control equipment, etc	.....	(X)	44.3	(X)	[3]125.0
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except electron tubes and semiconductors	.....	(X)	35.3	(X)	[3]93.0
383241	Sighting, tracking, and fire control equipment, optical type	.....	(D)	(D)	(X)	-
970099	All other material and components, parts, containers, and supplies	.....	(X)	1,185.7	(X)	619.4
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	23.1	(X)	7.2
	INDUSTRY 3764, SPACE PROPULSION UNITS AND PARTS					
	Materials, parts, containers, and supplies	.....	(X)	265.8	(X)	[1]203.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	1.1	.8	.3
331012	Sheet and strip	1,000 s. tons	(S)	3.6	.7	.2
331013	Plates	1,000 s. tons	(S)	3.6	.7	.2
331015	Structural shapes	1,000 s. tons	(S)	3.6	.7	.2
331017	Wire and wire products	1,000 s. tons	(S)	3.6	.6	.5
331019	All other carbon steel mill shapes and forms	1,000 s. tons	(S)	3.6	.6	.5
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s. tons	(S)	2.3	8.0	14.0
331029	All other alloy steel mill shapes and forms	1,000 s. tons	(S)	2.3	8.0	14.0
	Stainless steel:					
331033	Sheet and strip	1,000 s. tons	(S)	.5	8.0	14.0
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	.6	8.0	14.0
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content)	-	-	(Z)	(Z)
335793	Aluminum	Mil. lb (aluminum content)	-	-	(Z)	(Z)
335770	Magnet wire	Million lb	-	-	(X)	(X)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(D)	(D)	(D)	(D)
335143	Plate, sheet, and strip, including military cups and discs	Million lb	(D)	(D)	(D)	(D)
335152	Pipe and tube	Million lb	-	-	(D)	(D)
335728	Bare wire for electrical conduction only	Million lb	(D)	(D)	(Z)	(Z)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb	(S)	1.2	.7	.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc	Million lb	(S)	1.6	1.2	.9
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(D)	(D)	4.6	2.7
335601	Titanium and titanium-base alloy	1,000 lb	(D)	(D)	.1	.5
339915	Metal powders	Million lb	(D)	(D)	(X)	([7])
	Castings, rough and semifinished:					
332045	Steel:					
	Purchased	1,000 s. tons	(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	1.5	.3	1.3
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3764, SPACE PROPULSION UNITS AND PARTS--Con.					
	Castings, rough and semifinished--Con.					
336200	Copper and copper-base alloy:					
	Purchased	Million lb	(D)	(D)	(D)	(D)
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 s. tons	(S)	6.7	(S)	2.6
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	3.3	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
346326	Titanium and titanium-base alloy:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors under 1 hp:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	1,000 s. tons	-	-	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		-	-	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators, 1 hp and over:					
	Purchased		(D)	(D)	(Z)	(Z)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	(D)	(X)	.1
356201	Roller	.....	(X)	(D)	(X)	.1
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment	.....	(X)	(D)	(S)	.4
220129	Broadwoven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Million lin. yd	334.4	7.5	-	-
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	(D)	(X)	[3]2.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	(D)	(X)	([7])
366211	Radio and electonic communication equipment, and navigation aids, airborne transmitters and receivers, radar, electronic-type fire control equipment, etc.	.....	(X)	4.0	(X)	([7])
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except electron tubes and semiconductors	.....	(X)	5.3	(X)	[3]9.0
383241	Sighting, tracking, and fire control equipment, optical type	.....	(X)	-	(X)	([7])
970099	All other materials and components, parts, containers, and supplies	.....	(X)	166.6	(X)	[7]162.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	27.7	(X)	.5
	INDUSTRY 3769, SPACE VEHICLE EQUIPMENT, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	84.7	(X)	242.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons				
331012	Sheet and strip					
331013	Plates		(S)	1.7	(S)	1.9
331015	Structural shapes					
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	.5		
331029	All other alloy steel mill shapes and forms				(S)	2.7
	Stainless steel:					
331033	Sheet and strip		.1	.2		
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	1.4		
	Insulated wire and cable, except magnet wire:					
335792	Copper	Mil. lb (copper content)	(S)	.1	(D)	(D)
335793	Aluminum	Mil. lb (aluminum content)	-	-		
335770	Magnet wire	Million lb	(D)	(D)	(X)	([8])
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(D)	(D)		
335143	Plate, sheet, and strip, including military cups and discs		(D)	(D)		
335152	Pipe and tube		(D)	(D)	(S)	.3
335728	Bare wire (for electrical conduction only)		-	-		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(D)	(D)	1.4	1.3
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.		(S)	.1	.6	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(D)	(D)	(S)	.6
335601	Titanium and titanium-base alloy	Thousand lb	(S)	.4	(D)	(D)
339915	Metal powders	Million lb	-	-	(X)	([8])

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3769, SPACE VEHICLE EQUIPMENT, N.E.C.--Con.					
	Castings, rough and semifinished:					
332045	Steel:					
	Purchased	1,000 s. tons	(D)	(D)	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	.3	1.2	(S)	.5
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		-	-	(X)	[8]
	Produced and consumed	Million lb	-	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 s. tons	.3	1.4	(S)	.9
	Produced and consumed	1,000 s. tons	(S)	(X)	(X)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	.2	1.4	(S)	1.3
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
346326	Titanium and titanium-base alloy:					
	Purchased	Thousand lb	(D)	(D)	(D)	(D)
	Produced and consumed	Thousand lb	(S)	(X)	(S)	(X)
	Electric motors and generators:					
	Fractional horsepower electric motors under 1 hp:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower motors and generators, 1 hp and over:					
	Purchased		-	-	(D)	(D)
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	.4	(X)	(D)
356201	Roller		(X)	(D)		
356120	Hydraulic fluid power pumps, motors, and related hydraulic equipment		(X)	(D)	(X)	(D)
220129	Broad woven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Mil. lin. yd	(D)	(D)	(D)	(D)
345001	Bolts, nuts, screws, rivets, washers, and screw machine products		(X)	1.1	(X)	[3]2.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	(D)	(X)	[8]
366211	Radio and electronic communication equipment, and navigation aids; airborne transmitters and receivers, radar, electronic-type fire control equipment, etc.		(X)	(D)	(X)	[8]
367001	Resistors, capacitors, transformers, transducers, and other electonic-type components and accessories, except electron tubes and semiconductors		(X)	(D)	(X)	[3]23.0
383241	Sighting, tracking, and fire control equipment, optical type		(X)	(D)	(X)	[8]
970099	All other materials and components, parts, containers, and supplies		(X)	31.6	(X)	[8]199.4
971000	Materials and components, parts, containers, and supplies, n.s.k.[4]		(X)	3.0	(X)	5.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (S) Withheld because estimate did not meet publication standards. (X) Not collected. N.E.C. Not elsehwere classified. n.s.k. Not specified by kind. (Z) Less than $50,000 or less than half the unit of measure specified for quantities.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material codes 335770 and 339915 were included with materials code 970099.

[3]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1972, material codes 335770, 339915, 285101, 366211, and 383241 were included with material code 970099.

[6]For 1972, material codes 335770, 339915, 366211, and 383241 were included with material code 970099.

[7]For 1972, material codes 339915, 285101, 366211, and 383241 were included with material code 970099.

[8]For 1972, material codes 335770, 339915, 336200, 285101, 366211, and 383241 were included with material code 970099.

Ship and Boat Building; Railroad and Miscellaneous Transportation Equipment

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DESCRIPTION OF INDUSTRIES

SHIP AND BOAT BUILDING, RAILROAD AND MISCELLANEOUS TRANSPORTATION EQUIPMENT

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3731	Ship Building and Repairing
3732	Boat Building and Repairing
3743	Railroad Equipment
3751	Motorcycles, Bicycles, and Parts
3792	Travel Trailers and Campers
3795	Tanks and Tank Components
3799	Transportation Equipment, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3731, SHIP BUILDING AND REPAIRING

This industry comprises establishments primarily engaged in building and repairing all types of ships, barges, and lighters, whether propelled by sail or motor power or towed by other craft. This industry also includes the conversion and alteration of ships. Establishments primarily engaged in fabricating structural assemblies or components for ships, or subcontractors engaged in ship painting, joinery, carpentry work, electrical wiring installation, etc. are classified in other industries.

The total value of shipments for establishments classified in the Ship Building and Repairing industry amounted to $6,495 million in 1977, an increase of 98 percent from 1972. The value of shipments of products classified as primary to the industry was $6,270 million, an increase of 96 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were nonmilitary self-propelled ships, for which shipments increased 135 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $3,825 million in 1977, was 103 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 176.4 thousand employees, an increase of 22 percent from 1972. The leading States in employment were Virginia, Mississippi, Connecticut, and Louisiana, accounting for approximately 25 percent of the industry's 1977 employment. Data for Virginia, Mississippi, and Connecticut have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3732, BOAT BUILDING AND REPAIRING

This industry comprises establishments primarily engaged in building and repairing all types of boats. Establishments primarily engaged in cleaning and storing boats and in the rental of dock space, and yacht clubs are classified in nonmanufacturing industries. Establishments primarily engaged in the manufacture of rubber and nonrigid plastic boats are classified in major group 30.

The total value of shipments for establishments classified in the Boat Building and Repairing industry amounted to $1,823 million in 1977, an increase of 74 percent from 1972. The value of shipments of products classified as primary to the industry was $1,822 million, an increase of 77 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were inboard-outdrive motor boats, for which shipments increased 277 percent, and sailboats, for which shipments increased 140 percent. The change reflected a general

trend in the shipments of most of the products of the industry. Value added by manufacture, at $856 million in 1977, was 66 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 43.8 thousand employees, an increase of 8 percent from 1972. The leading States in employment were Florida, Texas, Washington, and California, accounting for approximately 45 percent of the industry's 1977 employment. Data for Washington have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3743, RAILROAD EQUIPMENT

This industry comprises establishments primarily engaged in building and rebuilding locomotives (including frames and parts not elsewhere classified) of any type or gage; and railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service. This industry also includes establishments primarily engaged in the manufacture of trackless trolley buses. Establishments primarily engaged in the manufacture of mining cars are classified in industry 3532. Repair shops owned and operated by railroads or local transit companies rebuilding or repairing locomotives or cars, or building new locomotives or cars for their own account, are classified in major groups 40 and 41.

The total value of shipments for establishments classified in the Railroad Equipment industry amounted to $4,278 million in 1977, an increase of 75 percent from 1972. The value of shipments of products classified as primary to the industry was $4,002 million, an increase of 75 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,883 million in 1977, was 69 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 56.3 thousand employees, an increase of 11 percent from 1972. The leading States in employment were Pennsylvania, Ohio, Indiana, and Illinois, accounting for approximately 70 percent of the industry's 1977 employment. Data for Indiana have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3751, MOTORCYCLES, BICYCLES, AND PARTS

This industry comprises establishments primarily engaged in the manufacture of motorcycles, bicycles, and similar equipment and parts. This industry also includes establishments primarily engaged in assembling motorcycles or bicycles from purchased parts. Establishments primarily engaged in the manufacture of children's vehicles, except bicycles, are classified in industry 3944, and those manufacturing golf carts and other similar personnel carriers in industry 3799.

The total value of shipments for establishments classified in the Motorcycles, Bicycles, and Parts industry amounted to $1,008 million in 1977, an increase of 53 percent from 1972. The value of shipments of products classified as primary to the industry was $847 million, an increase of 57 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were motorcycles, motorbikes, mopeds, motor scooters, and trail vehicles, for which shipments increased 155 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $370 million in 1977, was 17 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.6 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were Tennessee, California, Illinois, and Pennsylvania, accounting for approximately 60 percent of the industry's 1977 employment. Data for Illinois and Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3792, TRAVEL TRAILERS AND CAMPERS

This industry comprises establishments primarily engaged in the manufacture of travel trailers for attachment to passenger cars or other vehicles and pickup coaches (campers) or caps (covers) for mounting on pickup trucks. Establishments primarily engaged in the manufacture of mobile homes are classified in industry 2451.

The total value of shipments for establishments classified in the Travel Trailers and Campers industry amounted to $1,582 million in 1977, an increase of 18 percent from 1972. The value of shipments of products classified as primary to the industry was $1,478 million, an increase of 16 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were travel trailers greater than 25 feet in length, for which shipments increased 93 percent, and pickup cars, for which shipments increased 290 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $510 million in 1977, was 6 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 26.3 thousand employees, a decrease of 29 percent from 1972. The leading States in employment were Pennsylvania, Indiana, Michigan, and California, accounting for approximately 60 percent of the industry's 1977 employment. Data for Michigan have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

INDUSTRY 3795, TANKS AND TANK COMPONENTS

This industry comprises establishments primarily engaged in the manufacture of complete tanks and other full-tracked military vehicles, and weapons carriers. Establishments primarily engaged in the manufacture of military vehicles other than tanks are classified in industry group 371, and tank engines in industry 3519.

The total value of shipments for establishments classified in the Tanks and Tank Components industry amounted to $934 million in 1977, an increase of 243 percent from 1972. The value of shipments of products classified as primary to the industry was $1,015 million, an increase of 256 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $438 million in 1977, was 292 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.4 thousand employees, an increase of 110 percent from 1972. The leading States in employment were Pennsylvania, Indiana, Michigan, and California, accounting for approximately 90 percent of the industry's 1977 employment. Data for Indiana, Michigan, and California have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3799, TRANSPORTATION EQUIPMENT, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of transportation equipment, n.e.c., such as automobile trailers, snowmobiles, self-propelled golf carts and similar vehicles. Establishments primarily engaged in the manufacture of industrial trucks, tractors, trailers, and stackers are classified in industry 3537; and children's vehicles, except bicycles, in industry 3944.

The total value of shipments for establishments classified in the Transportation Equipment, N.E.C. industry amounted to $621 million in 1977, a decrease of 5 percent from 1972. The value of shipments of products classified as primary to the industry was $700 million, a decrease of 7 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were parts for miscellaneous transportation equipment which were misclassified in 1972, for which shipments decreased 50 percent, and snowmobiles and parts, for which shipments decreased 23 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $233 million in 1977, was 1 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry and 10.3 thousand employees, a decrease of 36 percent from 1972. The leading States in employment were Minnesota, California, Texas, and Georgia, accounting for approximately 45 percent of the industry's 1977 employment. Data for California, Texas, and Georgia have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets		End-of-year inventories (mil. dol.)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (mil. dol.)	Number (1,000)	Hours (mil.)	Wages (mil. dol.)				New capital expenditures (mil. dol.)	Gross value of fixed assets (mil. dol.)		Specialization (percent)	Coverage (percent)
INDUSTRY 3731, SHIP BUILDING AND REPAIRING																
1977 Census.	540	605	314	176.4	2 494.0	139.9	277.2	1 807.4	3 825.0	2 670.1	6 495.1	161.5	(NA)	1 072.5	97	99
1976 ASM....	(NA)	(NA)	(NA)	166.3	2 219.5	132.1	261.6	1 618.6	3 287.3	2 610.2	5 895.8	354.6	2 156.9	1 053.1	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	166.9	1 995.6	133.4	253.9	1 460.8	2 923.2	2 692.1	5 615.3	297.9	1 808.7	1 137.3	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	162.2	1 769.5	129.0	249.5	1 291.0	2 547.3	2 264.1	4 825.0	215.5	1 531.2	1 032.5	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	152.1	1 560.2	120.6	239.0	1 134.2	2 216.1	1 742.6	3 958.7	131.0	1 297.2	932.1	(NA)	(NA)
1972 Census.	415	455	277	144.6	1 422.3	117.7	233.4	1 053.2	1 881.3	1 399.7	3 281.0	142.0	1 227.3	721.3	98	98
1971 ASM....	(NA)	(NA)	(NA)	128.4	1 179.9	104.7	207.9	879.5	1 575.3	1 186.3	2 761.5	89.0	1 021.5	547.9	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	133.4	1 161.2	108.5	212.8	869.7	1 609.8	1 074.6	2 682.4	144.8	948.1	441.6	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	142.9	1 212.4	117.7	235.3	926.6	1 451.3	1 108.4	2 559.7	88.1	826.6	503.6	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	142.0	1 133.1	117.5	232.6	867.3	1 345.9	1 142.3	2 488.3	75.9	729.2	558.1	(NA)	(NA)
1967 Census.	389	415	253	138.8	1 076.0	114.2	231.0	819.4	1 430.4	1 087.8	2 518.2	70.3	689.5	800.3	95	98
1966 ASM....	(NA)	(NA)	(NA)	135.3	1 058.2	114.3	236.8	819.1	1 362.0	984.1	2 338.9	52.8	(NA)	658.8	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	130.4	946.0	109.5	223.0	737.9	1 204.1	869.9	2 078.2	44.6	(NA)	567.6	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	115.1	819.9	97.1	197.0	632.5	1 057.7	768.4	1 826.4	32.8	538.7	457.7	(NA)	(NA)
1963 Census.	305	334	200	114.6	782.3	96.5	193.5	610.3	1 009.7	670.1	1 679.8	24.5	505.7	344.1	92	99
INDUSTRY 3732, BOAT BUILDING AND REPAIRING																
1977 Census.	2 147	2 190	422	43.8	445.8	35.6	68.4	324.7	856.3	984.7	1 822.6	42.9	(NA)	338.0	98	96
1976 ASM....	(NA)	(NA)	(NA)	40.6	385.2	33.3	62.2	296.8	745.1	871.0	1 620.6	32.4	253.0	257.1	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	35.4	309.5	28.6	52.8	234.7	629.0	671.7	1 321.0	31.3	246.1	197.8	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	38.2	274.1	31.0	57.6	207.1	514.0	560.3	1 099.8	24.4	210.7	189.8	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	44.3	311.5	36.7	67.8	231.2	563.6	628.0	1 181.5	28.5	260.3	240.5	(NA)	(NA)
1972 Census.	1 726	1 777	368	40.6	281.3	33.6	64.0	212.4	516.8	552.0	1 048.2	37.2	261.2	209.7	97	96
1971 ASM....	(NA)	(NA)	(NA)	30.3	198.3	24.4	47.1	148.5	353.9	377.7	741.8	19.0	212.9	157.8	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	30.9	189.1	25.2	49.2	141.3	330.0	353.0	673.0	17.3	200.2	103.6	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	38.5	233.0	32.8	65.1	184.0	388.0	411.5	781.0	31.3	164.6	161.5	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	32.3	185.6	27.7	56.5	147.1	321.2	325.9	639.1	12.3	144.9	136.7	(NA)	(NA)
1967 Census.	1 565	1 596	287	30.5	163.0	26.2	51.8	128.1	274.8	298.4	571.4	15.8	141.7	115.8	96	91
1966 ASM....	(NA)	(NA)	(NA)	30.8	145.7	25.2	49.2	111.8	247.4	261.3	485.1	12.4	(NA)	110.5	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	28.9	136.6	24.6	49.5	109.1	220.8	235.8	448.8	12.7	(NA)	91.4	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	26.6	126.6	22.5	46.4	99.2	217.9	212.5	423.1	14.1	119.8	84.0	(NA)	(NA)
1963 Census.	1 596	1 626	268	24.9	116.1	20.9	42.0	91.4	183.1	183.2	360.2	13.5	114.8	78.6	97	95
INDUSTRY 3743, RAILROAD EQUIPMENT																
1977 Census.	145	201	118	56.3	888.6	42.6	79.4	619.9	1 882.8	2 386.2	4 278.3	83.9	(NA)	850.6	91	94
1976 ASM....	(NA)	(NA)	(NA)	50.5	740.2	37.6	69.4	510.0	1 454.8	2 077.0	3 615.6	67.5	833.4	756.8	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	59.6	797.9	46.3	87.0	578.4	1 566.4	2 625.3	4 221.5	73.4	788.4	868.2	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	60.1	735.4	47.6	92.5	550.0	1 602.6	2 165.1	3 538.9	67.7	726.3	878.7	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	52.8	596.0	40.6	78.3	424.6	1 245.5	1 563.1	2 771.2	47.4	711.7	555.1	(NA)	(NA)
1972 Census.	127	163	103	50.8	529.1	38.4	72.7	371.9	1 113.3	1 134.2	2 446.2	55.3	704.4	459.3	92	95
1971 ASM....	(NA)	(NA)	(NA)	53.2	512.0	40.7	78.2	363.3	1 018.3	1 372.3	2 363.9	65.7	667.9	470.1	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	53.7	479.1	41.5	79.6	343.2	878.4	1 323.6	2 178.9	48.6	607.5	441.7	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	54.4	470.6	42.9	85.7	347.3	915.9	1 364.7	2 259.7	49.2	554.8	426.5	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	48.3	386.0	36.9	72.9	274.2	725.3	1 022.5	1 723.1	33.4	516.8	397.4	(NA)	(NA)
1967 Census.	109	123	85	56.6	426.7	44.4	86.3	313.9	787.9	1 298.2	2 110.5	40.4	516.8	389.2	(NA)	94
1966 ASM....	(NA)	(NA)	(NA)	61.0	466.1	49.3	100.2	355.2	960.4	1 470.7	2 396.4	44.1	(NA)	406.3	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	57.9	417.3	46.4	92.6	316.3	806.4	1 337.8	2 140.9	35.6	(NA)	362.3	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	52.4	370.1	41.2	84.4	277.7	721.6	1 100.9	1 767.8	29.6	409.8	344.9	(NA)	(NA)
1963 Census.	91	92	57	45.0	301.7	34.9	68.0	217.5	541.4	840.8	1 365.1	18.1	389.0	270.0	(NA)	(NA)
INDUSTRY 3751, MOTORCYCLES, BICYCLES, AND PARTS																
1977 Census.	343	350	63	15.6	168.9	13.3	24.6	129.9	369.8	660.1	1 007.6	24.1	(NA)	226.5	84	97
1976 ASM....	(NA)	(NA)	(NA)	13.7	151.2	11.4	20.5	111.4	284.0	516.2	790.5	16.5	160.6	184.7	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	14.0	147.6	11.1	20.7	106.8	254.4	501.6	785.7	15.8	160.6	176.6	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	19.1	171.8	16.2	30.6	130.6	410.9	590.4	958.6	24.9	149.7	231.8	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	17.5	145.8	15.1	29.1	113.0	309.3	421.0	721.7	15.9	120.9	140.8	(NA)	(NA)
1972 Census.	219	222	52	17.6	139.6	15.0	29.1	106.2	315.2	373.0	659.5	16.0	101.1	128.8	81	95
1971 ASM....	(NA)	(NA)	(NA)	13.7	105.8	11.4	22.2	79.1	217.1	256.6	469.6	8.1	91.2	99.5	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	14.8	99.0	12.0	22.2	73.1	186.2	245.0	425.5	7.3	92.2	96.2	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	12.7	83.6	10.4	20.0	61.3	146.4	202.0	346.7	8.1	81.7	77.2	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	12.6	79.2	10.6	20.9	59.2	165.8	191.5	345.9	9.1	71.4	73.0	(NA)	(NA)
1967 Census.	87	91	33	12.0	70.3	10.1	19.1	53.4	136.2	170.6	299.6	5.5	65.9	60.3	89	96
1966 ASM....	(NA)	(NA)	(NA)	11.5	63.1	9.6	18.1	47.1	112.6	149.9	261.1	5.8	(NA)	49.9	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	11.2	62.1	9.3	18.2	46.1	106.1	146.0	247.1	7.4	(NA)	46.8	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	10.0	54.0	8.2	16.6	39.8	99.4	131.8	228.1	6.2	(NA)	40.3	(NA)	(NA)
1963 Census.	85	51	29	9.7	48.4	7.9	15.2	34.4	82.2	112.2	192.9	3.2	(NA)	36.0	83	93

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years** – Con.

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3792, TRAVEL TRAILERS AND CAMPERS[3]															
1977 Census.	775	861	266	26.3	275.7	21.8	40.7	197.1	510.3	1 068.4	1 582.4	34.3	(NA)	193.6	88	90
1976 ASM....	(NA)	(NA)	(NA)	24.8	238.4	20.3	40.5	169.7	490.4	1 034.5	1 491.2	23.2	138.0	180.0	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	21.4	195.8	17.8	33.7	141.3	362.3	783.8	1 157.9	17.2	135.8	143.7	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	20.9	173.4	17.0	33.6	121.6	297.0	545.9	861.2	12.0	116.8	135.9	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	33.8	238.9	28.6	51.0	174.0	420.8	757.7	1 181.5	26.3	141.6	150.4	(NA)	(NA)
1972 Census.	945	1 030	385	37.1	266.3	31.1	57.8	195.9	479.9	884.1	1 342.2	35.2	149.3	161.7	92	94
	INDUSTRY 3795, TANKS AND TANK COMPONENTS															
1977 Census.	20	24	18	12.4	208.5	10.0	19.8	156.2	437.6	590.0	934.2	13.2	(NA)	287.8	92	82
1976 ASM....	(NA)	(NA)	(NA)	9.8	146.0	7.7	15.5	110.9	305.7	467.3	720.3	9.4	65.8	171.2	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	8.4	112.7	6.8	13.5	86.0	258.4	279.5	504.0	2.3	59.0	118.4	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	7.7	103.6	5.9	12.2	75.6	205.4	195.1	362.3	1.5	56.6	83.5	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	6.3	75.4	5.0	10.1	55.4	135.8	187.9	321.8	3.5	42.2	36.9	(NA)	(NA)
1972 Census.	18	22	15	5.9	65.0	4.6	9.0	46.9	111.7	150.1	272.2	3.1	44.0	35.8	95	77
1971 ASM....	(NA)	(NA)	(NA)	7.3	72.4	5.1	10.1	44.9	181.1	193.8	345.2	3.0	41.7	65.6	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	8.1	76.0	5.3	10.7	46.4	139.5	208.4	360.1	3.2	39.2	35.7	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	9.6	89.7	6.4	13.5	57.4	142.1	238.5	421.8	1.2	37.6	72.5	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	12.6	108.8	9.2	18.7	71.6	180.6	333.4	506.4	2.8	38.7	97.2	(NA)	(NA)
1967 Census.	23	27	21	13.2	101.4	10.0	20.7	68.1	144.7	263.4	394.1	3.3	38.1	87.9	85	76
1966 ASM....	(NA)	(NA)	(NA)	10.1	82.8	7.1	15.6	50.4	133.3	155.8	274.1	5.7	(NA)	74.7	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	7.6	56.3	5.0	10.8	33.6	106.1	116.3	220.0	1.8	(NA)	60.8	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	9.1	62.9	6.0	11.6	37.1	78.1	212.5	296.6	1.4	29.9	72.7	(NA)	(NA)
1963 Census.	23	26	19	11.3	76.6	7.8	16.2	48.4	148.4	258.9	394.1	5.2	31.0	82.0	95	79
	INDUSTRY 3799, TRANSPORTATION EQUIPMENT, N.E.C.[3]															
1977 Census.	408	429	109	10.3	106.6	7.4	13.3	62.6	232.7	384.9	620.9	9.8	(NA)	109.4	94	79
1976 ASM....	(NA)	(NA)	(NA)	15.2	154.1	11.6	20.0	95.8	379.8	538.9	905.3	15.2	192.3	167.9	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	14.1	131.1	10.5	19.6	83.7	312.7	483.0	808.7	15.3	(S)	155.8	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	15.8	124.6	12.2	20.5	81.7	320.9	459.7	764.1	26.2	(S)	176.9	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	18.0	135.6	13.8	27.7	90.3	293.4	439.1	706.3	16.9	(S)	153.5	(NA)	(NA)
1972 Census.	444	501	192	16.1	117.2	13.4	25.2	82.0	232.1	434.2	654.6	16.9	(S)	113.5	93	74

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified.
r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3731, SHIP BUILDING AND REPAIRING										
1977 Census..	14 136	(NA)	79	1 981	6.52	41	79	(NA)	21 681	65	13.80
1976 ASM.....	13 346	12 969	79	1 980	6.18	44	81	36	19 767	67	12.56
1975 ASM.....	11 956	10 837	79	1 903	5.75	47	83	32	17 514	68	11.51
1974 ASM.....	10 909	9 440	79	1 934	5.17	46	83	31	15 704	69	10.20
1973 ASM.....	10 257	8 528	79	1 981	4.74	44	83	32	14 570	70	9.27
1972 Census..	9 836	8 487	81	1 983	4.51	42	86	37	13 010	75	8.06
1971 ASM.....	9 189	7 955	81	1 985	4.23	42	85	36	12 268	74	7.57
1970 ASM.....	8 704	7 107	81	1 961	4.08	40	83	35	12 067	72	7.56
1969 ASM.....	8 484	5 784	82	1 999	3.93	43	90	32	10 156	83	6.16
1968 ASM.....	7 979	5 135	82	1 979	3.72	45	91	29	9 478	84	5.78
1967 Census..	7 752	4 967	82	2 022	3.54	43	85	27	10 305	75	6.19
1966 ASM.....	7 821	(NA)	84	2 071	3.45	42	87	(NA)	10 066	77	5.75
1965 ASM.....	7 254	(NA)	83	2 036	3.30	41	87	(NA)	9 233	78	5.39
1964 ASM.....	7 123	4 680	84	2 028	3.21	42	86	29	9 189	77	5.36
1963 Census..	6 826	4 412	84	2 005	3.15	39	86	30	8 810	77	5.21
	INDUSTRY 3732, BOAT BUILDING AND REPAIRING										
1977 Census..	10 187	(NA)	81	1 922	4.74	54	78	(NA)	19 570	52	12.51
1976 ASM.....	9 487	6 231	82	1 867	4.77	53	77	15	18 352	51	11.97
1975 ASM.....	8 742	6 951	80	1 846	4.44	50	74	18	17 768	49	11.91
1974 ASM.....	7 175	5 515	81	1 858	3.59	50	75	19	13 455	53	8.92
1973 ASM.....	7 031	5 875	82	1 847	3.41	53	79	22	12 722	55	8.31
1972 Census..	6 928	6 433	82	1 904	3.31	52	79	24	12 729	54	8.07
1971 ASM.....	6 544	7 026	80	1 930	3.15	50	77	28	11 679	56	7.51
1970 ASM.....	6 119	6 478	81	1 952	2.87	52	80	29	10 679	57	6.70
1969 ASM.....	6 051	4 275	85	1 984	2.82	52	82	21	10 077	60	5.96
1968 ASM.....	5 746	4 486	85	2 039	2.60	50	80	22	9 944	57	5.68
1967 Census..	5 344	4 645	85	1 977	2.47	52	80	24	9 009	59	5.30
1966 ASM.....	4 730	(NA)	81	1 952	2.27	53	83	(NA)	8 032	58	5.02
1965 ASM.....	4 726	(NA)	85	2 012	2.20	52	82	(NA)	7 640	61	4.46
1964 ASM.....	4 759	4 503	84	2 062	2.13	50	80	28	8 191	58	4.69
1963 Census..	4 662	4 610	83	2 009	2.17	50	83	31	7 353	63	4.35
	INDUSTRY 3743, RAILROAD EQUIPMENT										
1977 Census..	15 793	(NA)	75	1 862	7.80	55	76	(NA)	33 464	47	23.71
1976 ASM.....	14 657	16 502	74	1 845	7.34	57	77	23	28 807	50	20.96
1975 ASM.....	13 387	13 228	77	1 879	6.64	62	81	18	26 281	50	18.00
1974 ASM.....	12 236	12 084	79	1 943	5.94	61	81	20	26 665	45	17.32
1973 ASM.....	11 287	13 479	76	1 928	5.42	56	77	25	23 589	47	15.90
1972 Census..	10 415	13 866	75	1 893	5.11	54	76	28	21 915	48	15.31
1971 ASM.....	9 624	12 555	77	1 921	4.65	58	80	28	19 140	50	13.02
1970 ASM.....	8 922	11 313	77	1 918	4.32	61	83	28	16 358	55	11.04
1969 ASM.....	8 651	9 045	79	1 856	4.05	60	81	25	16 836	51	10.69
1968 ASM.....	7 992	6 916	76	1 976	3.76	59	82	30	15 017	53	9.95
1967 Census..	7 539	7 138	78	1 944	3.64	62	82	24	13 921	54	9.13
1966 ASM.....	7 641	(NA)	81	2 033	3.55	61	81	(NA)	15 744	49	9.59
1965 ASM.....	7 207	(NA)	80	1 996	3.42	62	82	(NA)	13 927	52	8.71
1964 ASM.....	7 063	7 821	79	2 049	3.29	62	83	23	13 771	51	8.55
1963 Census..	6 705	8 645	78	1 949	3.20	62	84	29	12 031	56	7.96
	INDUSTRY 3751, MOTORCYCLES, BICYCLES, AND PARTS										
1977 Census..	10 815	(NA)	85	1 851	5.27	65	82	(NA)	23 683	45	15.02
1976 ASM.....	11 036	11 722	83	1 798	5.43	65	84	20	20 729	53	13.85
1975 ASM.....	10 542	11 471	79	1 864	5.15	63	82	20	18 171	58	12.28
1974 ASM.....	8 994	7 837	84	1 888	4.26	61	79	15	21 513	41	13.42
1973 ASM.....	8 331	6 908	86	1 927	3.88	58	78	16	17 674	47	10.62
1972 Census..	7 931	5 744	85	1 940	3.64	56	77	15	17 909	44	10.83
1971 ASM.....	7 722	6 656	83	1 947	3.56	54	77	19	15 846	48	9.77
1970 ASM.....	6 689	6 229	81	1 850	3.29	57	80	21	12 581	53	8.38
1969 ASM.....	6 582	6 433	81	1 923	3.06	58	82	23	11 527	57	7.32
1968 ASM.....	6 285	5 666	84	1 971	2.83	55	78	20	13 158	47	7.93
1967 Census..	5 858	5 491	84	1 891	2.79	56	80	21	11 350	51	7.13
1966 ASM.....	5 486	(NA)	83	1 885	2.60	57	81	(NA)	9 791	56	6.22
1965 ASM.....	5 544	(NA)	83	1 956	2.53	59	84	(NA)	9 473	58	5.82
1964 ASM.....	5 400	(NA)	82	2 024	2.39	57	81	(NA)	9 940	54	5.98
1963 Census..	4 989	(NA)	81	1 924	2.26	58	83	(NA)	8 474	58	5.40

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years** – Con.

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3792, TRAVEL TRAILERS AND CAMPERS										
1977 Census..	10 467	(NA)	82	1 867	4.84	67	84	(NA)	19 376	54	12.54
1976 ASM.....	9 612	5 564	81	1 995	4.19	69	85	9	19 774	48	12.10
1975 ASM.....	9 149	6 345	83	1 893	4.19	67	84	11	16 929	54	10.75
1974 ASM.....	8 296	5 588	81	1 976	3.61	63	83	13	14 210	58	8.83
1973 ASM.....	7 068	4 189	84	1 783	3.41	64	84	11	12 449	56	8.25
1972 Census..	7 177	4 024	83	1 858	3.38	65	85	11	12 935	55	8.30
	INDUSTRY 3795, TANKS AND TANK COMPONENTS										
1977 Census..	16 752	(NA)	80	1 986	7.89	63	85	(NA)	35 162	47	22.10
1976 ASM.....	14 897	6 714	78	2 012	7.15	64	85	9	31 193	47	19.72
1975 ASM.....	13 416	7 023	80	1 985	6.37	55	77	11	30 761	43	19.14
1974 ASM.....	13 454	7 350	76	2 067	6.19	53	82	15	26 675	50	16.83
1973 ASM.....	11 968	6 698	79	2 020	5.48	58	81	13	21 555	55	13.44
1972 Census..	11 016	7 457	77	1 956	5.21	55	79	16	18 932	58	12.41
1971 ASM.....	9 917	5 712	69	1 980	4.44	56	77	12	24 808	39	17.93
1970 ASM.....	9 382	4 839	65	2 018	4.33	57	78	10	17 222	54	13.03
1969 ASM.....	9 343	3 916	66	2 109	4.25	56	77	8	14 802	63	10.52
1968 ASM.....	8 634	3 071	73	2 032	3.82	65	87	7	14 333	60	9.65
1967 Census..	7 681	2 886	75	2 070	3.28	66	92	9	10 962	70	6.99
1966 ASM.....	8 198	(NA)	70	2 197	3.23	56	87	(NA)	13 198	62	8.54
1965 ASM.....	7 407	(NA)	65	2 160	3.11	52	78	(NA)	13 960	53	9.82
1964 ASM.....	6 912	3 285	65	1 933	3.19	71	92	10	8 582	80	6.73
1963 Census..	6 778	2 743	69	2 076	2.98	65	85	7	13 132	51	9.16
	INDUSTRY 3799, TRANSPORTATION EQUIPMENT, N.E.C.										
1977 Census..	10 318	(NA)	71	1 800	4.70	61	79	(NA)	22 517	45	17.46
1976 ASM.....	10 138	12 651	76	1 724	4.79	59	76	21	24 986	40	18.99
1975 ASM.....	9 297	(S)	74	1 866	4.27	59	75	(S)	22 177	41	15.95
1974 ASM.....	7 886	(S)	77	1 680	3.98	60	76	(S)	20 310	38	15.65
1973 ASM.....	7 533	(S)	76	2 007	3.25	62	81	(S)	16 300	46	10.59
1972 Census..	7 279	(S)	83	1 880	3.25	66	84	(S)	14 416	50	9.21

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3731, SHIP BUILDING AND REPAIRING														
United States	–	**605**	**314**	**176.4**	**2 494.0**	**139.9**	**277.2**	**1 807.4**	**3 825.0**	**2 670.1**	**6 495.1**	**161.5**	**144.6**	**1 881.3**
New England Division:														
Maine	–	21	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	–	20	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Rhode Island	E1	9	4	0.3	4.5	0.3	0.8	3.3	7.2	5.2	12.4	(D)	0.2	2.7
Connecticut	–	5	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	46	23	4.8	64.6	4.0	7.9	51.6	112.0	75.3	187.3	(D)	4.3	59.6
New Jersey	–	22	12	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	–	13	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	6.4	98.2
East North Central Division:														
Ohio	–	14	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	–	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	E1	7	5	0.7	10.3	0.6	1.1	7.5	19.5	9.3	28.9	1.0	0.3	4.5
Wisconsin	–	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	11.1
West North Central Division:														
Missouri	–	5	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	–	17	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	–	18	12	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	–	9	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	–	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	–	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	–	64	28	6.6	80.4	5.5	11.0	64.7	134.6	95.5	230.1	(D)	4.1	56.2
East South Central Division:														
Kentucky	–	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	–	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	–	16	12	2.9	34.2	2.6	4.6	29.3	54.3	34.9	89.2	5.4	(NA)	(D)
Mississippi	–	17	13	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	–	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Louisiana	–	85	56	17.1	255.0	14.5	31.7	207.1	425.6	349.5	775.1	23.4	(NA)	(D)
Texas	–	54	29	7.9	101.0	6.3	10.8	73.0	155.9	85.8	241.6	6.6	(NA)	(D)
Pacific Division:														
Washington	–	32	16	7.1	119.3	5.7	11.2	84.5	242.2	121.4	363.7	5.9	(NA)	(D)
Oregon	–	11	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	–	70	36	15.8	249.9	13.5	26.3	190.3	390.9	279.8	670.7	6.7	(NA)	(D)
Hawaii	–	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 3732, BOAT BUILDING AND REPAIRING														
United States	**E1**	**2 190**	**422**	**43.8**	**445.8**	**35.6**	**68.4**	**324.7**	**856.3**	**984.7**	**1 822.6**	**42.9**	**40.6**	**516.8**
New England Division:														
Maine	E2	57	6	0.4	3.7	0.3	0.7	2.8	7.0	5.7	12.7	0.5	(NA)	(D)
Massachusetts	E1	58	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Rhode Island	–	21	5	0.7	6.5	0.6	1.1	5.0	12.7	12.5	25.1	(D)	0.7	8.2
Connecticut	E1	37	5	0.5	5.2	0.4	0.7	3.7	10.1	8.4	18.9	0.2	0.4	7.1
Middle Atlantic Division:														
New York	E1	85	10	1.1	11.4	0.9	1.8	9.3	21.1	18.4	38.9	(D)	(NA)	(D)
New Jersey	–	59	17	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	E1	18	4	0.3	3.2	0.3	0.5	1.9	5.2	5.6	11.0	0.2	1.1	11.2
East North Central Division:														
Ohio	E1	32	4	0.3	3.0	0.2	0.5	2.2	5.2	4.7	9.9	0.2	(NA)	(D)
Indiana	E1	32	14	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	–	22	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	7.6
Michigan	–	61	14	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	E1	43	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	10.1
West North Central Division:														
Minnesota	E1	31	11	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	E1	34	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	–	12	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	E4	58	3	0.3	2.8	0.2	0.4	2.0	4.7	4.0	8.6	0.2	(NA)	(D)
Virginia	E1	47	10	0.9	9.4	0.7	1.4	6.7	14.5	16.1	29.7	1.7	0.4	5.4
North Carolina	E1	52	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Carolina	E2	29	11	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	E2	28	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E2	337	66	6.4	63.8	5.2	9.9	46.9	135.8	140.8	271.9	5.9	7.1	88 0
East South Central Division:														
Kentucky	E1	21	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	E1	56	17	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	E2	40	6	1.0	8.9	0.8	1.5	6.8	16.3	18.1	34.3	(D)	(NA)	(D)
Mississippi	E2	17	5	0.3	2.9	0.2	0.4	1.9	5.4	5.3	10.6	0.3	(NA)	(NA)
West South Central Division:														
Arkansas	E1	36	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	14.2
Louisiana	E1	94	20	1.9	21.1	1.6	3.1	15.3	37.9	30.0	66.6	(D)	(NA)	(D)
Oklahoma	E1	22	4	0.2	2.0	0.2	0.4	1.4	3.3	7.1	10.2	(D)	(NA)	(D)
Texas	E1	135	24	3.1	30.2	2.3	4.4	19.1	56.4	63.9	118.9	(D)	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3732, BOAT BUILDING AND REPAIRING—Con.														
Mountain Division:														
Arizona	-	15	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	-	158	26	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.5	31.0
Oregon	E2	56	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E1	301	66	5.9	60.4	4.8	9.1	44.1	124.7	142.6	263.1	5.7	(NA)	(D)
INDUSTRY 3743, RAILROAD EQUIPMENT														
United States	-	**201**	**118**	**56.3**	**888.6**	**42.6**	**79.4**	**619.9**	**1 882.8**	**2 386.2**	**4 276.3**	**83.9**	**50.8**	**1 113.3**
Middle Atlantic Division:														
New York	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	31	20	18.7	288.8	13.8	24.7	194.8	616.2	694.4	1 275.2	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	15	11	3.8	60.8	3.0	5.6	46.2	92.0	118.0	213.1	(D)	2.8	49.2
Indiana	-	10	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	38.3
Illinois	-	38	29	14.2	252.5	10.5	20.8	172.6	671.6	663.8	1 347.0	(D)	13.1	443.2
Michigan	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	5	3	0.3	3.7	0.2	0.3	2.5	10.6	7.1	17.5	(D)	(NA)	(D)
West North Central Division:														
Missouri	-	5	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	4	2	0.2	3.7	0.1	0.2	1.6	6.5	3.1	9.0	(D)	(NA)	(D)
South Atlantic Division:														
Delaware	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West Virginia	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	8	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.8
Florida	E1	4	3	0.2	3.3	0.2	0.4	2.8	2.1	2.8	4.8	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	[D]
Tennessee	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	3	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	[D]
West South Central Division:														
Arkansas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Idaho	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Oregon	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	-	8	2	0.4	5.6	0.3	0.6	3.4	9.4	11.4	20.8	0.5	(NA)	(D)
INDUSTRY 3751, MOTORCYCLES, BICYCLES, AND PARTS														
United States	-	**350**	**63**	**15.6**	**168.9**	**13.3**	**24.6**	**129.9**	**369.8**	**660.1**	**1 007.6**	**24.1**	**17.6**	**315.2**
New England Division:														
Massachusetts	-	5	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	E1	6	3	0.2	2.5	0.2	0.4	1.7	5.1	4.2	9.2	(D)	(NA)	(D)
Middle Atlantic Division:														
Pennsylvania	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	11	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	6	2	0.2	2.5	0.2	0.3	1.5	3.9	4.5	8.4	(D)	(NA)	(NA)
Illinois	-	15	5	2.1	26.6	1.7	3.0	19.5	54.3	76.7	125.2	(D)	(NA)	(D)
Wisconsin	E2	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Nebraska	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Florida	E2	15	3	0.2	1.2	0.1	0.2	0.9	2.7	2.5	5.2	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	8	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E3	164	25	2.2	21.9	1.9	3.3	15.2	41.5	55.5	96.6	1.5	(NA)	(D)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3792, TRAVEL TRAILERS AND CAMPERS													
United States	-	**861**	**266**	**26.3**	**275.7**	**21.8**	**40.7**	**197.1**	**510.3**	**1 068.4**	**1 582.4**	**34.3**	**37.1**	**479.9**
New England Division:													
Massachusetts	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:													
New York	-	8	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	34	15	1.4	12.7	1.2	2.2	9.5	30.7	56.1	86.6	0.9	(NA)	(D)
East North Central Division:														
Ohio	-	21	6	1.3	14.2	1.1	1.9	10.9	17.9	71.0	93.9	(D)	(NA)	(D)
Indiana	-	104	52	6.5	78.7	5.2	10.1	56.8	141.5	308.6	446.2	8.3	(NA)	(D)
Illinois	-	11	3	0.7	7.2	0.6	1.2	5.7	15.6	20.2	35.2	(D)	0.2	1.6
Michigan	E1	53	17	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	E1	13	4	0.4	3.4	0.3	0.5	2.6	6.4	14.3	21.0	0.3	0.5	5.5
West North Central Division:														
Iowa	E1	16	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	4.9
Missouri	E2	25	5	0.4	2.7	0.3	0.5	1.8	5.1	10.0	14.9	(D)	0.6	6.1
Kansas	-	26	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.7	18.0
South Atlantic Division:														
Maryland	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	-	10	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	18	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	6.3
West South Central Division:														
Oklahoma	-	17	5	0.5	3.8	0.4	0.8	2.8	5.8	17.7	23.9	(D)	(NA)	(D)
Texas	-	63	16	1.3	12.3	1.1	1.9	8.5	28.8	60.7	89.9	1.2	2.4	28.5
Mountain Division:														
Idaho	-	14	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Colorado	E4	27	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.1	11.4
Arizona	E2	19	4	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Utah	E1	9	3	0.3	1.9	0.2	0.4	1.4	2.3	5.9	8.8	(D)	0.4	3.5
Pacific Division:														
Washington	E2	25	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon	-	30	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.4	23.2
California	E1	166	58	5.5	54.1	4.5	8.5	37.1	100.4	191.3	294.4	8.3	(NA)	(D)
INDUSTRY 3795, TANKS AND TANK COMPONENTS														
United States	-	**24**	**18**	**12.4**	**208.5**	**10.0**	**19.8**	**156.2**	**437.6**	**590.0**	**934.2**	**13.2**	**5.9**	**111.7**
Middle Atlantic Division:														
Pennsylvania	-	3	3	2.4	32.5	2.0	4.0	26.7	93.6	103.1	157.5	(D)	(NA)	(D)
East North Central Division:														
Indiana	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Michigan	-	8	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
West Virginia	-	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Louisiana	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	5	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3799, TRANSPORTATION EQUIPMENT, N.E.C.														
United States	E1	**429**	**109**	**10.3**	**106.6**	**7.4**	**13.3**	**62.6**	**232.7**	**384.9**	**620.9**	**9.8**	**16.1**	**232.1**
New England Division:														
Massachusetts	-	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
Pennsylvania	-	15	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	19.2
East North Central Division:														
Ohio	E7	32	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	13.7
Indiana	E2	22	8	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	17.7
Wisconsin	-	8	4	0.3	4.1	0.2	0.4	2.2	9.2	9.5	19.1	(D)	0.5	10.3
West North Central Division:														
Minnesota	-	12	7	1.5	17.2	1.1	2.0	12.4	51.0	82.8	139.2	(D)	2.8	42.0
Iowa	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	0.7
Nebraska	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	-	12	7	0.4	3.6	0.3	0.5	2.0	5.2	10.5	16.1	(D)	(NA)	(D)
Georgia	-	12	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.7
Florida	E3	25	8	0.4	4.0	0.3	0.6	2.5	7.2	12.5	19.7	(D)	(NA)	(D)
East South Central Division:														
Tennessee	E1	16	3	0.3	2.9	0.3	0.4	1.9	6.4	6.1	12.4	(D)	(NA)	(D)
West South Central Division:														
Oklahoma	E1	15	7	0.5	4.3	0.4	0.8	3.3	9.4	18.0	27.5	(D)	0.5	7.0
Texas	E1	48	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	17.7
Pacific Division:														
Washington	-	10	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	5.0
California	E1	58	17	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Ship building and repairing (SIC 3731)	Boat building and repairing (SIC 3732)	Railroad equipment (SIC 3743)	Motorcycles, bicycles, and parts (SIC 3751)	Travel trailers and campers (SIC 3792)	Tanks and tank components (SIC 3795)	Transportation equipment, n.e.c. (SIC 3799)
Primary product specialization ratio[1]	percent	97	98	91	84	88	92	94
Coverage ratio[2]	do	99	96	94	97	90	82	79
All establishments	number	605	2 190	201	350	861	24	429
With 1 to 19 employees	do	291	1 768	83	287	595	6	320
With 20 to 99 employees	do	153	322	52	44	203	5	89
With 100 employees or more	do	161	100	66	19	63	13	20
All employees, average for year	1,000	176.4	43.8	56.3	15.6	26.3	12.4	10.3
Payroll for year, all employees	mil. dol.	2 494.0	445.8	888.6	168.9	275.7	208.5	106.6
Production workers:								
Average for year	1,000	139.9	35.6	42.6	13.3	21.8	10.0	7.4
March	do	139.6	36.6	41.4	12.3	23.7	9.0	7.1
May	do	141.0	37.8	42.9	14.2	21.7	9.5	7.9
August	do	136.0	34.0	45.2	13.5	21.2	10.3	7.7
November	do	142.8	33.8	40.9	13.1	20.4	11.0	7.0
Hours	millions	277.2	68.4	79.4	24.6	40.7	19.8	13.3
January to March	do	68.0	17.7	19.2	5.5	10.4	4.3	3.0
April to June	do	71.5	19.8	20.6	6.9	11.0	5.0	3.7
July to September	do	68.4	15.9	20.4	6.2	10.1	5.0	3.4
October to December	do	69.4	15.0	19.1	5.9	9.3	5.5	3.2
Wages	mil. dol.	1 807.4	324.7	619.9	129.9	197.1	156.2	62.6
Cost of materials, etc.	do	2 670.1	984.7	2 386.2	660.1	1 068.4	590.0	384.9
Materials, parts, containers, etc., consumed	do	2 416.2	939.9	2 275.8	627.8	990.4	565.6	356.7
Resales	do	21.6	20.2	54.6	(D)	67.0	(D)	15.8
Fuels consumed	do	25.6	7.0	20.4	4.1	3.5	5.4	2.1
Purchased electric energy	do	55.4	8.6	21.1	5.3	4.8	5.7	2.7
Contract work	do	151.2	9.0	14.3	(D)	2.7	(D)	7.6
Value of shipments, including resales	do	6 495.1	1 822.6	4 278.3	1 007.6	1 582.4	934.2	620.9
Value of resales	do	29.8	25.3	88.9	(D)	75.5	(D)	25.5
Value added by manufacture	do	3 825.0	856.3	1 882.8	369.8	510.3	437.6	232.7
Manufacturers' inventories:								
Beginning of year	do	1 098.5	306.3	822.8	182.1	196.0	187.9	108.5
Finished products	do	35.2	92.7	110.2	67.2	90.3	0.7	41.4
Work in process	do	851.3	73.7	541.5	64.4	20.5	180.1	25.9
Materials, supplies, fuel, etc.	do	212.1	139.9	171.1	50.5	85.3	7.2	41.2
End of year	do	1 072.5	338.0	850.6	226.5	193.6	287.8	109.4
Finished products	do	55.7	103.6	123.6	81.6	83.9	1.2	37.1
Work in process	do	785.9	81.2	518.8	72.2	23.1	273.0	26.9
Materials, supplies, fuel, etc.	do	231.0	153.3	208.2	72.7	86.6	13.6	45.4
Capital expenditures for plant and equipment	do	170.4	45.9	91.9	25.3	35.5	15.5	10.9
New capital expenditures	do	161.5	42.9	83.9	24.1	34.3	13.2	9.8
New buildings and other structures	do	68.1	15.0	17.4	6.0	14.2	3.2	2.2
New machinery and equipment	do	93.4	27.9	66.5	18.1	20.1	10.0	7.7
Used capital expenditures	do	8.8	3.0	8.0	1.2	1.2	2.3	1.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Ship building and repairing (SIC 3731)		Boat building and repairing (SIC 3732)		Railroad equipment (SIC 3743)		Motorcycles, bicycles, and parts (SIC 3751)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	7.9	5	(2.0)	34	(3.4)	46	0.5	5
Response coverage ratio[2] (percent)	84	(X)	64	(X)	78	(X)	83	(X)
Machinery	20.9	8	(4.5)	19	8.6	12	1.6	7
Response coverage ratio[2] (percent)	82	(X)	59	(X)	74	(X)	76	(X)
Cost of purchased communication services	12.7	6	(4.6)	39	6.5	2	0.9	12
Response coverage ratio[2] (percent)	89	(X)	57	(X)	81	(X)	87	(X)
Rental payments	39.4	3	(20.9)	21	12.5	8	5.5	10
Buildings and other structures	15.7	7	(13.1)	36	(4.9)	18	(3.3)	16
Machinery and equipment	23.7	3	(7.8)	25	7.6	5	2.1	7
Supplemental labor costs	523.7	2	59.1	5	243.2	1	27.5	3
Legal costs	247.2	2	40.8	3	77.0	1	15.2	2
Voluntary costs	276.6	3	18.3	10	166.2	1	12.3	4
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	888.2	2	121.3	10	267.6	1	44.7	4
New capital expenditures	91.7	3	(15.6)	22	17.4	14	4.6	4
Used capital expenditures	1.4	6	0.7	1	3.5	1	-	(X)
Retirements	47.0	2	(3.8)	33	(1.5)	51	0.3	8
End of year	934.3	2	133.8	9	286.9	2	49.0	3
Machinery and equipment:								
Beginning of year	1,201.7	2	119.7	9	592.4	1	106.2	3
New capital expenditures	87.0	13	25.8	14	63.1	2	13.9	3
Automobiles, trucks, etc., for highway use[3]	(4.9)	(A)	(2.5)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(3.4)	(A)	(0.5)	(A)	(D)	(A)	(D)	(A)
All other[3]	(74.3)	27	(16.2)	(A)	(58.4)	34	(12.8)	(A)
New machinery and equipment, n.s.k.[4]	(4.5)	(A)	(6.6)	(A)	(1.8)	(A)	(1.0)	(A)
Used capital expenditures	5.8	10	(1.2)	18	3.4	1	0.9	5
Retirements	(25.4)	22	(10.0)	18	(20.4)	18	4.0	9
End of year	1,269.1	2	136.7	8	638.6	1	117.1	3
Total gross value of depreciable assets:								
Beginning of year	2,090.0	2	240.9	7	860.0	1	150.9	3
New capital expenditures	178.7	13	41.4	12	80.5	3	18.6	3
Used capital expenditures	7.2	9	1.9	11	6.9	1	1.0	5
Retirements	72.4	9	(13.7)	19	(21.9)	20	4.3	9
End of year	2,203.5	2	270.4	7	925.5	1	166.1	3
Depreciation charges during 1977	139.9	3	21.1	7	47.3	1	12.7	3
Buildings and other structures	47.7	3	(7.8)	16	10.0	2	3.1	3
Machinery and equipment	92.1	4	13.4	9	37.3	1	9.6	3

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Travel trailers and campers (SIC 3792)		Tanks and tank components (SIC 3795)		Transportation equipment, n.e.c. (SIC 3799)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	1.1	9	1.6	1	(1.2)	29
Response coverage ratio[2] (percent)	46	(X)	78	(X)	64	(X)
Machinery	(3.1)	(A)	5.0	1	(1.7)	29
Response coverage ratio[2] (percent)	53	(X)	91	(X)	71	(X)
Cost of purchased communication services	(30.6)	(A)	2.0	1	(2.9)	31
Response coverage ratio[2] (percent)	52	(X)	98	(X)	74	(X)
Rental payments	9.4	8	2.8	1	(5.3)	18
Buildings and other structures	5.4	14	1.0	1	(3.2)	23
Machinery and equipment	4.0	4	1.8	1	2.1	10
Supplemental labor costs	37.4	4	44.9	1	17.9	8
Legal costs	25.9	3	15.9	1	10.1	3
Voluntary costs	11.6	7	29.0	1	(7.8)	18
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	75.8	6	21.1	1	(48.3)	26
New capital expenditures	(7.9)	25	3.1	1	(1.0)	36
Used capital expenditures	0.1	1	0.6	1	(Z)	52
Retirements	(3.1)	30	-	(X)	(0.3)	32
End of year	80.7	5	24.7	1	(49.0)	25
Machinery and equipment:						
Beginning of year	66.9	5	61.3	1	90.5	6
New capital expenditures	13.9	9	9.6	1	8.4	14
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(D)	(A)
All other[3]	(8.9)	(A)	(9.4)	(A)	(6.4)	(A)
New machinery and equipment, n.s.k.[4]	(2.0)	(A)	(Z)	(A)	(1.3)	(A)
Used capital expenditures	(1.4)	20	1.7	1	(1.8)	49
Retirements	4.3	11	1.7	1	(2.0)	48
End of year	77.9	4	70.8	1	98.7	5
Total gross value of depreciable assets:						
Beginning of year	142.7	5	82.3	1	138.9	6
New capital expenditures	21.8	14	12.7	1	9.4	13
Used capital expenditures	(1.4)	19	2.2	1	(1.8)	48
Retirements	7.3	12	1.8	1	(2.3)	45
End of year	158.6	4	95.5	1	147.7	5
Depreciation charges during 1977	12.2	4	4.0	1	(10.5)	25
Buildings and other structures	3.4	4	0.7	1	(2.4)	26
Machinery and equipment	8.8	6	3.4	1	(8.1)	25

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3731, SHIP BUILDING AND REPAIRING												
Total	-	**605**	**176.4**	**2 494.0**	**139.9**	**277.2**	**1 807.4**	**3 825.0**	**2 670.1**	**6 495.1**	**161.5**	**1 072.5**
Establishments with an average of—												
1 to 4 employees	E7	140	0.2	2.7	0.2	0.3	2.0	5.0	3.7	8.7	0.5	1.4
5 to 9 employees	E6	72	0.5	7.1	0.4	0.8	5.0	11.3	9.8	21.1	1.1	3.3
10 to 19 employees	E4	79	1.1	14.7	0.9	1.8	10.9	25.3	18.3	43.7	2.8	6.2
20 to 49 employees	E2	89	2.9	38.4	2.5	5.1	30.1	62.2	43.7	105.9	4.9	24.3
50 to 99 employees	-	64	4.3	58.2	3.6	7.1	46.3	100.7	59.5	160.2	5.6	40.0
100 to 249 employees	-	68	10.8	149.7	8.9	17.7	114.9	263.6	178.1	441.7	13.1	93.3
250 to 499 employees	-	46	15.8	218.6	12.9	25.8	165.6	389.6	277.0	666.6	17.4	140.6
500 to 999 employees	-	21	15.1	219.3	12.8	25.2	173.0	357.8	275.7	633.5	12.9	114.2
1,000 to 2,499 employees	-	16	23.7	351.7	19.6	36.1	268.5	587.1	342.3	929.4	23.4	272.6
2,500 employees or more	-	10	102.0	1 433.7	78.0	157.3	991.1	2 022.5	1 461.9	3 484.4	79.8	376.5
Covered by administrative records[2]	E0	198	1.2	16.5	1.0	2.0	12.0	25.8	19.6	45.4	2.6	6.9
INDUSTRY 3732, BOAT BUILDING AND REPAIRING												
Total	**E1**	**2 190**	**43.8**	**445.8**	**35.6**	**68.4**	**324.7**	**856.3**	**984.7**	**1 822.6**	**42.9**	**338.0**
Establishments with an average of—												
1 to 4 employees	E8	1 211	1.8	18.1	1.8	2.8	13.8	35.4	37.3	73.5	1.6	14.2
5 to 9 employees	E4	303	2.0	20.1	1.6	3.2	15.2	37.0	37.1	74.1	1.9	12.8
10 to 19 employees	E2	254	3.4	32.0	2.7	5.2	24.1	58.8	63.2	121.4	3.5	23.1
20 to 49 employees	E1	224	7.0	70.4	5.7	11.1	51.3	131.6	140.4	268.2	7.0	49.3
50 to 99 employees	E1	98	6.8	70.0	5.6	10.9	52.1	135.6	170.1	301.0	7.6	55.6
100 to 249 employees	-	71	11.0	113.9	8.9	17.1	81.8	219.8	251.1	467.4	(21.3)	85.9
250 to 499 employees	-	24	8.3	86.5	6.6	13.1	61.8	177.6	202.8	374.8	(D)	75.3
500 to 999 employees	-	4	(3.5)	(34.7)	(2.7)	(5.0)	(24.6)	(60.5)	(82.7)	(142.4)	(D)	(21.8)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	1 116	2.6	25.4	2.4	4.0	19.2	48.7	51.2	99.9	2.1	18.9
INDUSTRY 3743, RAILROAD EQUIPMENT												
Total	-	**201**	**56.3**	**886.6**	**42.6**	**79.4**	**619.9**	**1 882.8**	**2 386.2**	**4 278.3**	**83.9**	**850.6**
Establishments with an average of—												
1 to 4 employees	E4	48	0.1	1.1	0.1	0.1	0.7	3.2	3.4	6.6	0.1	0.9
5 to 9 employees	E5	16	0.1	1.5	0.1	0.1	1.0	2.7	3.3	6.1	0.1	1.2
10 to 19 employees	E3	19	0.3	3.6	0.2	0.4	2.4	7.4	10.2	17.7	0.3	3.4
20 to 49 employees	-	29	1.0	13.5	0.8	1.5	9.2	32.4	40.6	71.5	1.7	12.7
50 to 99 employees	-	23	1.7	21.3	1.4	2.6	15.2	49.9	52.8	100.2	2.6	21.3
100 to 249 employees	-	28	4.4	56.8	3.4	6.1	37.8	111.6	152.1	267.0	9.2	61.9
250 to 499 employees	-	12	3.9	54.7	3.2	5.9	42.4	115.2	179.6	290.9	(69.9)	69.5
500 to 999 employees	-	8	5.7	90.5	4.0	7.2	57.1	168.0	271.1	450.0	(D)	93.7
1,000 to 2,499 employees	-	15	(39.2)	(645.5)	(29.5)	(55.5)	(454.1)	(1 392.3)	(1 673.0)	(3 068.3)	(D)	(586.0)
2,500 employees or more	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	43	0.2	3.0	0.2	0.3	2.0	5.4	6.5	11.8	0.2	2.5
INDUSTRY 3751, MOTORCYCLES, BICYCLES, AND PARTS												
Total	-	**350**	**15.6**	**168.9**	**13.3**	**24.6**	**129.9**	**369.8**	**560.1**	**1 007.6**	**24.1**	**226.5**
Establishments with an average of—												
1 to 4 employees	E9	189	0.3	3.0	0.3	0.4	2.2	2.5	9.4	14.8	0.3	3.7
5 to 9 employees	E8	56	0.4	4.1	0.3	0.6	3.0	6.7	11.7	18.2	0.5	4.3
10 to 19 employees	E7	42	0.6	6.1	0.5	0.9	4.3	10.8	18.0	28.8	0.7	6.7
20 to 49 employees	E2	33	1.0	9.2	0.8	1.4	6.1	18.0	19.7	37.3	1.8	7.9
50 to 99 employees	-	11	0.8	6.7	0.6	1.2	4.5	13.3	11.8	24.9	0.5	5.1
100 to 249 employees	-	8	1.2	12.5	0.9	1.8	7.8	27.7	32.5	57.8	1.8	10.0
250 to 499 employees	-	3	(3.1)	(29.8)	(2.7)	(4.6)	(22.5)	(53.4)	(140.6)	(194.1)	(6.6)	(37.7)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	4	(8.3)	(97.5)	(7.2)	(13.8)	(79.4)	(237.4)	(416.4)	(631.7)	(12.0)	(151.0)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	226	0.9	9.9	0.8	1.4	7.3	17.0	30.7	47.7	1.1	11.7
INDUSTRY 3792, TRAVEL TRAILERS AND CAMPERS												
Total	-	**861**	**26.3**	**275.7**	**21.8**	**40.7**	**197.1**	**510.3**	**1 068.4**	**1 582.4**	**34.3**	**193.6**
Establishments with an average of—												
1 to 4 employees	E8	378	0.6	5.5	0.6	0.9	4.0	9.0	22.1	32.5	0.5	3.9
5 to 9 employees	E6	122	0.8	7.9	0.7	1.3	5.6	14.6	27.2	41.7	0.8	5.1
10 to 19 employees	E2	95	1.3	12.0	1.1	2.0	8.7	20.3	43.4	63.1	5.9	9.7
20 to 49 employees	-	110	3.3	31.2	2.6	4.7	21.6	57.2	110.4	166.6	3.1	19.5
50 to 99 employees	-	93	6.7	67.0	5.3	9.7	44.9	128.3	277.4	404.7	5.9	48.4
100 to 249 employees	-	49	7.2	79.9	6.1	11.3	55.6	152.6	307.9	466.3	7.0	52.2
250 to 499 employees	-	10	3.0	29.6	2.5	4.8	22.5	60.5	118.3	178.6	3.8	26.2
500 to 999 employees	-	3	(3.4)	(42.7)	(2.9)	(5.9)	(34.1)	(67.8)	(161.8)	(228.9)	(7.2)	(28.5)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	364	1.0	9.6	1.0	1.6	6.8	16.7	37.1	53.7	0.8	6.6

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3795, TANKS AND TANK COMPONENTS												
Total	-	**24**	**12.4**	**208.5**	**10.0**	**19.8**	**156.2**	**437.6**	**590.0**	**934.2**	**13.2**	**267.8**
Establishments with an average of—												
1 to 4 employees	E0	3	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	0.1	0.1	(Z)	(Z)
5 to 9 employees	E0	2	(Z)	(0.5)	(Z)	(0.1)	(0.4)	(1.0)	(2.0)	(3.0)	(0.1)	(0.7)
10 to 19 employees	E0	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
20 to 49 employees	-	3	(0.3)	(3.6)	(0.2)	(0.4)	(1.9)	(6.6)	(10.2)	(16.8)	(0.2)	(3.4)
50 to 99 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
100 to 249 employees	-	5	0.8	11.7	0.6	1.3	6.4	22.6	34.4	55.7	0.5	6.7
250 to 499 employees	-	1	(2.0)	(31.3)	(1.5)	(2.9)	(22.2)	(61.8)	(58.1)	(112.6)	(1.8)	(35.8)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
1,000 to 2,499 employees	-	5	9.4	161.3	7.7	15.2	125.2	345.6	485.2	746.0	10.6	241.2
Covered by administrative records[2]	E0	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
INDUSTRY 3799, TRANSPORTATION EQUIPMENT, N.E.C.												
Total	-	**429**	**10.3**	**106.6**	**7.4**	**13.3**	**62.6**	**232.7**	**384.9**	**620.9**	**9.8**	**109.4**
Establishments with an average of—												
1 to 4 employees	E8	193	0.3	3.0	0.3	0.4	1.8	6.4	9.7	16.7	0.3	3.0
5 to 9 employees	E5	63	0.4	3.8	0.3	0.6	2.4	8.5	10.1	18.5	0.3	3.1
10 to 19 employees	E4	64	0.9	7.6	0.7	1.1	4.6	14.6	21.4	36.0	0.5	6.7
20 to 49 employees	E1	60	1.9	19.2	1.5	2.7	12.1	32.0	64.9	97.6	1.3	17.6
50 to 99 employees	-	29	2.0	19.0	1.5	2.7	12.1	38.3	59.8	98.2	1.6	17.0
100 to 249 employees	-	14	2.1	21.7	1.5	2.8	13.6	49.6	76.7	132.2	(5.8)	26.6
250 to 499 employees	-	3	0.9	10.7	0.5	0.9	5.4	30.0	39.5	68.3	(D)	10.7
500 to 999 employees	-	3	1.9	21.6	1.0	2.0	10.6	53.2	102.8	153.4	(D)	24.6
Covered by administrative records[2]	E0	185	0.6	5.6	0.5	0.8	3.4	11.6	18.1	29.8	0.5	5.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3731	**Ship building and repairing:**										
	Entire industry	605	176.4	2 494.0	139.9	277.2	1 807.4	3 825.0	2 670.1	6 495.1	161.5
	Establishments with 75 percent specialization or more	563	171.1	2 418.3	135.9	269.7	1 758.3	3 684.5	2 556.7	6 241.2	154.6
37311	New nonpropelled ships:										
	Establishments with this product class primary	37	11.9	158.3	9.8	19.1	122.1	275.6	260.2	535.9	15.7
	Establishments with 75 percent specialization or more in class	22	5.0	66.2	4.3	9.0	54.7	116.7	111.2	227.9	8.7
37312	New self-propelled ships, U.S. military:										
	Establishments with this product class primary	12	81.9	1 153.0	61.5	123.6	783.4	1 619.8	1 107.0	2 726.8	68.7
	Establishments with 75 percent specialization or more in class	5	50.2	702.5	33.6	68.9	395.0	980.2	635.0	1 615.2	(D)
37313	New self-propelled ships, nonmilitary:										
	Establishments with this product class primary	114	48.6	666.3	39.9	78.5	497.8	1 097.8	895.3	1 993.1	39.0
	Establishments with 75 percent specialization or more in class	84	32.1	448.1	25.6	51.4	329.7	748.4	609.4	1 357.8	28.3
37314	Ship repair and conversion, U.S. military ships:										
	Establishments with this product class primary	34	11.0	176.7	9.6	19.6	142.7	284.5	155.7	440.2	9.7
	Establishments with 75 percent specialization or more in class	20	3.5	54.7	3.1	5.9	42.6	93.4	67.4	160.7	(D)
37316	Ship repair and conversion, nonmilitary ships:										
	Establishments with this product class primary	101	18.5	276.8	15.6	29.9	221.6	443.1	183.9	627.0	18.1
	Establishments with 75 percent specialization or more in class	74	11.8	172.9	10.1	19.2	140.5	280.7	110.8	391.4	13.8
3732	**Boat building and repairing:**										
	Entire industry	2 190	43.8	445.8	35.6	68.4	324.7	856.3	984.7	1 822.6	42.9
	Establishments with 75 percent specialization or more	2 124	42.4	429.5	34.5	66.3	313.2	827.0	961.9	1 771.6	40.8
37322	Outboard motorboats (including prefabricated kits):										
	Establishments with this product class primary	119	6.3	58.7	4.9	9.3	37.4	119.1	148.1	264.8	5.3
	Establishments with 75 percent specialization or more in class	89	3.7	34.1	3.0	5.9	23.4	71.0	83.6	153.2	3.8
37325	Inboard motorboats:										
	Establishments with this product class primary	103	7.0	71.7	5.8	11.6	55.2	142.8	180.8	318.3	6.3
	Establishments with 75 percent specialization or more in class	86	6.5	67.5	5.4	10.8	51.8	135.8	168.7	299.5	5.9
37326	Inboard-outdrive boats, except houseboats:										
	Establishments with this product class primary	89	8.7	87.1	7.1	13.9	61.1	171.6	267.4	436.7	8.1
	Establishments with 75 percent specialization or more in class	53	4.7	47.7	3.7	7.3	32.1	95.5	155.5	248.4	3.8
37327	Other boats:										
	Establishments with this product class primary	145	7.8	74.6	6.3	11.9	55.2	144.6	154.0	296.0	6.6
	Establishments with 75 percent specialization or more in class	124	6.0	57.0	4.9	9.3	42.3	115.3	116.5	229.6	5.1
37328	Boat repair, military and nonmilitary:										
	Establishments with this product class primary	169	5.0	66.8	4.0	7.8	49.7	109.8	59.1	165.4	5.7
	Establishments with 75 percent specialization or more in class	149	4.3	56.6	3.4	6.7	42.2	92.2	50.7	139.7	5.1
3743	**Railroad equipment:**										
	Entire industry	201	56.3	888.6	42.6	79.4	619.9	1 882.8	2 386.2	4 278.3	83.9
	Establishments with 75 percent specialization or more	177	45.1	716.3	34.8	64.6	515.1	1 512.0	2 109.7	3 649.9	(D)
37431	New and rebuilt locomotives and parts:										
	Establishments with this product class primary	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37432	New passenger train and freight train cars:										
	Establishments with this product class primary	38	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	32	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37433	Street, subway, trolley, and rapid transit cars:										
	Establishments with this product class primary	67	13.7	194.0	9.9	18.7	126.4	360.9	325.6	731.0	17.5
	Establishments with 75 percent specialization or more in class	56	11.3	159.6	7.9	15.0	102.2	289.0	280.2	616.5	15.1
3751	**Motorcycles, bicycles, and parts:**										
	Entire industry	350	15.6	168.9	13.3	24.6	129.9	369.8	660.1	1 007.6	24.1
	Establishments with 75 percent specialization or more	329	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37511	Bicycles, adult tricycles, unicycles, and parts:										
	Establishments with this product class primary	24	10.4	111.8	9.2	16.6	89.7	223.9	417.8	617.2	14.5
	Establishments with 75 percent specialization or more in class	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37512	Motorcycles, motorbikes, mopeds, and motor scooters:										
	Establishments with this product class primary	46	3.8	42.3	2.9	5.9	29.4	122.3	197.2	319.1	6.9
	Establishments with 75 percent specialization or more in class	41	3.6	40.4	2.7	5.5	28.0	119.2	194.2	312.9	6.7
3792	**Travel trailers and campers:**										
	Entire industry	861	26.3	275.7	21.8	40.7	197.1	510.3	1 068.4	1 582.4	34.3
	Establishments with 75 percent specialization or more	793	21.4	222.2	17.6	32.3	156.2	417.2	868.1	1 288.5	25.9
37921	Travel trailers:										
	Establishments with this product class primary	150	14.8	161.4	12.2	22.5	115.1	290.7	676.2	974.4	14.5
	Establishments with 75 percent specialization or more in class	119	10.9	123.0	9.0	16.5	87.3	231.1	523.8	761.6	10.3
37922	Camping trailers, truck campers, and pickup covers:										
	Establishments with this product class primary	190	8.3	83.3	6.7	12.9	60.0	167.1	273.9	436.2	11.6
	Establishments with 75 percent specialization or more in class	159	4.9	46.3	3.9	7.0	32.1	90.8	147.8	236.2	4.0
3795	**Tanks and tank components:**										
	Entire industry	24	12.4	208.5	10.0	19.8	156.2	437.6	590.0	934.2	13.2
	Establishments with 75 percent specialization or more	19	10.6	180.0	8.7	17.3	139.2	370.1	541.2	824.2	(D)
3799	**Transportation equipment, n.e.c.:**										
	Entire industry	429	10.3	106.6	7.4	13.3	62.6	232.7	384.9	620.9	9.8
	Establishments with 75 percent specialization or more	400	9.5	97.7	6.8	12.1	57.2	214.3	356.0	572.8	8.7
37993	Golf carts and similar vehicles:										
	Establishments with this product class primary	9	1.5	17.6	0.7	1.4	6.3	33.9	61.6	92.8	0.3
	Establishments with 75 percent specialization or more in class	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37994	Snowmobiles and parts:										
	Establishments with this product class primary	9	1.5	16.7	1.1	1.9	12.1	48.6	81.5	135.9	(D)
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
37999	Other transportation equipment and parts, n.e.c.:										
	Establishments with this product class primary	129	5.6	55.6	4.1	7.5	34.0	115.6	187.3	302.1	5.8
	Establishments with 75 percent specialization or more in class	117	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3731	Ship building and repairing[1] 1977	6,495.1	6,193.7	162.4	138.9	97	6,270.3	6,193.7	76.6	99
	1972	3,281.0	3,123.9	73.3	83.8	98	3,200.7	3,123.9	76.8	98
	1967	2,518.2	2,314.6	129.0	74.6	95	2,357.9	2,314.6	43.3	98
3732	Boat building and repairing 1977	1,822.6	1,747.5	32.5	42.7	98	1,822.1	1,747.5	74.6	96
	1972	1,048.2	990.1	32.9	25.2	97	1,031.1	990.1	41.0	96
	1967	571.4	521.6	21.6	28.2	96	570.8	521.6	49.2	91
3743	Railroad equipment 1977	4,278.3	3,751.3	361.3	165.6	91	4,001.9	3,751.3	250.5	94
	1972	2,446.2	2,151.3	188.5	106.4	92	2,284.2	2,151.3	132.9	94
	1967	2,110.5	1,829.9	(D)	(D)	(D)	1,943.5	1,829.9	113.6	94
3751	Motorcycles, bicycles, and parts 1977	1,007.6	825.9	159.7	22.0	84	847.3	825.9	21.3	97
	1972	659.5	513.6	117.8	27.8	81	540.6	513.6	27.0	95
	1967	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
3792	Travel trailers and campers 1977	1,582.4	1,326.9	176.1	79.4	88	1,477.6	1,326.9	150.6	90
	1972	1,342.2	1,202.8	110.6	28.8	92	1,276.5	1,202.8	73.7	94
	1967	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
3795	Tanks and tank components 1977	934.2	831.6	76.0	26.6	92	1,015.1	831.6	183.6	82
	1972	272.2	219.9	10.9	41.4	95	285.1	219.9	65.2	77
	1967	394.1	312.1	54.3	27.7	85	409.3	312.1	97.2	76
3799	Transportation equipment, n.e.c. 1977	620.9	556.0	34.7	30.2	94	700.3	556.0	144.4	79
	1972	654.6	581.2	43.7	29.7	93	753.4	(NA)	(NA)	(NA)
	1967	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.

[1]Establishments classified in industry 3731 report value of work done on ships rather than value of shipments. This applies only to ships and does not apply to secondary products.

[2]In 1972, industries 3751 and 3799 were redefined, significantly altering content. For 1967, comparable data were not available.

[3]In 1972, industry 3792 was established as a separate industry. For 1967, comparable data were not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Ship building and repairing[1] (SIC 3731)	Boat building and repairing (SIC 3732)	Railroad equipment (SIC 3743)	Motorcycles, bicycles, and parts (SIC 3751)	Travel trailers and campers (SIC 3792)	Tanks and tank components (SIC 3795)	Transportation equipment, n.e.c. (SIC 3799)	Other industries
	Total	(X)	6,495.1	1,822.6	4,278.3	1,007.6	1,582.4	934.2	620.9	(X)
	Primary products	(X)	6,193.7	1,747.5	3,751.3	825.9	1,326.9	831.6	556.0	(X)
	Secondary products	(X)	162.4	32.5	361.3	159.7	176.1	76.0	34.7	(X)
	Miscellaneous receipts	(X)	138.9	42.7	165.6	22.0	79.4	26.6	30.2	(X)
3731-	Ship building and repairing	6,270.3	6,193.7	8.3	(D)	-	-	-	-	(D)
37311	Nonpropelled ships, new construction	491.1	(D)	.6	(D)	-	-	-	-	(D)
37312	Self-propelled ships, new, U.S. military	2,211.7	2,199.4	-	-	-	-	-	-	12.3
37313	Self-propelled ships, new, nonmilitary	1,917.3	1,873.9	6.3	(D)	-	-	-	-	(D)
37314	Ship repair, conversion, U.S. military ships	718.0	705.8	(D)	-	-	-	-	-	(D)
37316	Ship repair, conversion, nonmilitary ships	789.1	786.1	(D)	-	-	-	-	-	(D)
37310	Ship building and repairing, n.s.k	143.2	(D)	(D)	-	-	-	-	-	-
3732-	Boat building and repairing	1,822.1	36.5	1,747.5	-	(D)	(D)	-	(D)	8.1
37322	Outboard motorboats, including prefabricated kits	297.7	(D)	283.8	-	-	(D)	-	(D)	(D)
37325	Inboard motorboats	359.6	(D)	343.4	-	-	(D)	-	-	-
37326	Inboard-outdrive motorboats, except houseboats	361.8	-	(D)	-	-	-	-	-	(D)
37327	Boats, n.e.c	282.1	(D)	(D)	-	(D)	(D)	-	-	(D)
37328	Boat repair, military and nonmilitary	173.2	(D)	138.3	-	-	-	-	-	(D)
37320	Boat building and repairing, n.s.k	347.8	(D)	346.8	-	-	-	-	-	(D)
3743-	Railroad equipment	4,001.9	-	-	3,751.3	-	-	-	(D)	(D)
37431	Locomotives, both new and rebuilt, and parts	(D)	-	-	(D)	-	-	-	-	72.3
37432	Passenger train and freight train cars, new	(D)	-	-	(D)	-	-	-	-	(D)
37433	Street, subway, trolley, and rapid transit cars	899.1	-	-	732.4	-	-	-	(D)	(D)
37430	Railroad equipment, n.s.k	47.0	-	-	(D)	-	-	-	-	(D)
3751-	Motorcycles, bicycles, and parts	847.3	-	(D)	-	825.9	-	-	(D)	17.8
37511	Bicycles, adult tricycles, unicycles, and parts	490.4	-	-	-	484.9	-	-	-	5.5
37512	Motorcycles, motorbikes, mopeds, and motor scooters	286.1	-	(D)	-	(D)	-	-	(D)	(D)
37510	Motorcycles, bicycles, and parts, n.s.k	70.7	-	-	-	(D)	-	-	-	(D)
3792-	Travel trailers and campers	1,477.6	-	(D)	-	-	1,326.9	-	(D)	139.0
37921	Travel trailers (trailers with rigid structure)	882.2	-	(D)	-	-	797.2	-	(D)	79.8
37922	Camping trailers, truck campers, pickup covers	426.2	-	(D)	-	-	361.8	-	(D)	(D)
37920	Travel trailers and campers, n.s.k	169.2	-	-	-	-	167.9	-	(D)	(D)
37950	Tanks, self-propelled weapons	1,015.1	-	-	(D)	-	-	831.6	-	(D)
3799-	Transportation equipment, n.e.c	700.3	-	8.9	-	(D)	(D)	-	556.0	89.1
37993	Golf carts and similar vehicles	108.2	-	-	-	(D)	-	-	76.0	(D)
37994	Snowmobiles and parts	157.1	-	(D)	-	(D)	(D)	-	122.4	(D)
37999	Transportation equipment and parts, n.e.c	353.6	-	(D)	-	(D)	(D)	-	278.7	59.0
37990	Transportation equipment, n.e.c., n.s.k	81.4	-	-	-	-	1.3	-	78.9	1.2
	Other shipments by 4-digit product group:									
2399-	Fabricated textile products, n.e.c	(X)	-	-	-	-	(D)	-	(D)	(X)
2448-	Wood pallets and skids	(X)	-	-	-	-	(D)	-	-	(X)
2451-	Mobile homes	(X)	-	-	-	-	(D)	-	(D)	(X)
3321-	Gray iron foundries	(X)	-	-	(D)	-	-	(D)	-	(X)
3325-	Steel foundries, n.e.c	(X)	-	-	-	-	-	(D)	-	(X)
3441-	Fabricated structural metal	(X)	50.8	(D)	(D)	-	-	-	-	(X)
3443-	Fabricated plate work (boiler shops)	(X)	(D)	-	(D)	-	-	(D)	-	(X)
3462-	Iron and steel forgings	(X)	-	-	(D)	-	-	(D)	-	(X)
3483-	Ammunition, except for small arms, n.e.c	(X)	-	-	-	-	(D)	-	-	(X)
3494-	Valves and pipe fittings	(X)	(D)	-	(D)	-	(D)	-	-	(X)
3499-	Fabricated metal products, n.e.c	(X)	-	(D)	(D)	-	(D)	(D)	(D)	(X)
3519-	Internal combustion engines, n.e.c	(X)	-	-	(D)	-	-	-	-	(X)
3523-	Farm machinery and equipment	(X)	-	-	(D)	-	(D)	-	4.8	(X)
3524-	Lawn and garden equipment	(X)	-	-	-	(D)	-	-	(D)	(X)
3531-	Construction machinery	(X)	-	(D)	(D)	-	-	-	(D)	(X)
3532-	Mining machinery	(X)	(D)	-	3.9	-	-	-	-	(X)
3533-	Oil field machinery	(X)	-	-	(D)	-	-	-	-	(X)
3535-	Conveyors and conveying equipment	(X)	(D)	(D)	-	-	-	-	-	(X)
3545-	Machine tool accessories	(X)	-	-	-	-	-	(D)	-	(X)
3547-	Rolling mill machinery	(X)	-	-	-	-	-	(D)	-	(X)
3559-	Special industry machinery, n.e.c	(X)	(D)	-	-	-	(D)	-	-	(X)
3561-	Pumps and pumping equipment	(X)	(D)	-	(D)	-	-	-	-	(X)
3563-	Air and gas compressors	(X)	-	-	-	-	-	-	(D)	(X)
3564-	Blowers and fans	(X)	-	-	(D)	-	-	-	-	(X)
3566-	Speed changers, drives, and gears	(X)	(D)	-	-	-	-	-	-	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Shipbuilding and repairing[1] (SIC 3731)	Boat building and repairing (SIC 3732)	Railroad equipment (SIC 3743)	Motorcycles, bicycles, and parts (SIC 3751)	Travel trailers and campers (SIC 3792)	Tanks and tank components (SIC 3795)	Transportation equipment, n.e.c. (SIC 3799)	Other industries
	Other shipments by 4-digit product group--Con.									
3567-	Industrial furnaces and ovens	(X)	-	-	(D)	-	-	-	-	(X)
3599-	Machinery, except electrical, n.e.c	(X)	3.4	-	-	(D)	-	-	-	(X)
3621-	Motors and generators	(X)	-	-	(D)	-	-	-	-	(X)
3647-	Vehicular lighting equipment	(X)	-	-	-	-	(D)	-	-	(X)
3661-	Telephone and telegraph apparatus	(X)	-	-	-	(D)	-	-	-	(X)
3711-	Motor vehicles and car bodies	(X)	-	-	(D)	-	(D)	(D)	-	(X)
3713-	Truck and bus bodies	(X)	-	(D)	-	-	(D)	-	(D)	(X)
3714-	Motor vehicle parts and accessories	(X)	-	(D)	(D)	-	11.5	(D)	(D)	(X)
3716-	Motor homes produced on purchased chassis	(X)	-	-	-	-	76.0	-	-	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	(D)	-	-	-	-	(X)
3728-	Aircraft equipment, n.e.c	(X)	(D)	-	(D)	(D)	(D)	-	(D)	(X)
3842-	Surgical appliances and supplies	(X)	-	-	(D)	(D)	-	-	-	(X)
3944-	Games, toys, and children's vehicles	(X)	-	-	-	3.4	-	-	-	(X)
3949-	Sporting and athletic goods, n.e.c	(X)	-	(Z)	-	(D)	(D)	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	16.6	4.5	3.3	.9	(D)	(D)	.9	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	.8	13.1	(X)	(X)	(D)	(X)	(X)
99980 41	Receipts for research and developmental work	(X)	(D)	-	(X)	(X)	(X)	(D)	(X)	(X)
99980 61	Receipts for repair work	(X)	(X)	(X)	48.1	(X)	(X)	(X)	(X)	(X)
99980 98	Other miscellaneous receipts	(X)	48.6	12.2	12.2	(D)	(D)	(D)	3.8	(X)
99989 00	Resales	(X)	29.8	25.3	88.9	(D)	75.5	(D)	25.5	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3731-	3531 Construction machinery	(D)
	3561 Pumps and pumping equipment	(D)
	3764 Space propulsion units and parts	(D)
3743-	3321 Gray iron foundries	(D)
	3441 Fabricated structural metal	(D)
	3494 Valves and pipe fittings	(D)
	3531 Construction machinery	(D)
	3532 Mining machinery	(D)
	3559 Special industry machinery, n.e.c	(D)
	3564 Blowers and fans	(D)
	3644 Noncurrent-carrying wiring devices	(D)
	3714 Motor vehicle parts and accessories	(D)
	3721 Aircraft	(D)
	3724 Aircraft engines and engine parts	(D)
	3728 Aircraft equipment, n.e.c	56.0
3751-	3519 Internal combustion engines, n.e.c	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3792-	2451 Mobile homes	7.3
	3714 Motor vehicle parts and accessories	16.2
	3716 Motor homes	108.3
3795-	3483 Ammunition, except for small arms, n.e.c	(D)
	3662 Radio and television communication equipment	(D)
	3714 Motor vehicle parts and accessories	(D)
	3724 Aircraft engines and engine parts	(D)
	3728 Aircraft equipment, n.e.c	15.0
3799-	3469 Metal stampings, n.e.c	(D)
	3524 Lawn and garden equipment	(D)
	3533 Oil field machinery	(D)
	3662 Radio and television communication equipment	(D)
	3714 Motor vehicle parts and accessories	11.3
	3944 Games, toys, and children's vehicles	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Establishments classified in industry 3731 report value of work done on ships rather than value of shipments. This applies only to ships and does not apply to secondary products.

Table 6a-1. Products and Product Classes — Quantity and Value of Work Done by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of Shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Work done[1]		Work done	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SHIP BUILDING AND REPAIRING						
3731- --	Total	.....	(NA)	(X)	6,270.3	(X)	3,200.7
37311 --	Nonpropelled ships, new construction, including barges, dredges, car floats, and drilling platforms	.....	(NA)	(X)	491.1	(X)	361.9
37311 11	Military, including hopper barges, tank barges, covered cargo barges, deck barges, dredges, car floats, etc	Number	1	(D)	(3)	(X)	1.7
	Nonmilitary:						
37311 21	Hopper barges		11	439	70.7	703	66.6
37311 31	Tank barges		18	129	90.1	100	38.2
37311 41	Covered cargo barges		9	454	86.8	1,046	129.4
37311 51	Deck barges		18	119	40.3	154	12.2
37311 61	Dredges		7	13	7.4		
37311 71	Car floats		-	-	-	(S)	106.8
37311 75	Drilling platforms		9	59	146.2		
37311 81	Other nonmilitary nonpropelled vessels	Number	14	(S)	3 47.2		
37311 00	Nonpropelled ships, new construction, n.s.k	.....	(NA)	(X)	2.4	(X)	7.0
37312 11	Self-propelled ships, new construction, U.S. military, including combat ships, troop transport vessels, fleet auxiliaries, service craft, etc	.....	25	(X)	2,211.7	(X)	1,100.0
37313 --	Self-propelled ships, new construction, nonmilitary	.....	(NA)	(X)	1,917.3	(X)	816.1
	Yachts:						
37313 13	Under 65 ft. in length	Number	21	2,526	142.0	1,214	105.5
37313 15	65 ft. and over in length	Number	7	22	13.8		
37313 21	Dry cargo ships	.....	8	(X)	174.9		
37313 22	Passenger-cargo ships	.....	4	(X)	22.8	(X)	531.9
37313 23	Passenger ships	.....	4				
37313 26	Tankers	.....	12	(X)	722.2		
37313 31	Commercial fishing vessels	.....	44	(X)	122.6		
37313 32	Fire, patrol, and pilot vessels	.....	4	(X)	129.4		
37313 33	Supply and survey vessels for offshore drilling and mining	.....	18				
37313 34	Tugboats and towboats	.....	43	(X)	127.7	(X)	176.7
37313 35	Self-propelled mobile drill rigs	.....	2	(X)	456.9		
37313 39	Other ships, including ferry boats, hovercraft, etc	.....	19				
37313 00	Self-propelled ships, new construction, nonmilitary, n.s.k	.....	(NA)	(X)	5.0	(X)	1.8
37314 --	Ship repair, conversion, and reconversion, U.S. military	.....	(NA)	(X)	718.0	(X)	386.5
	Military sea transportation service:						
37314 21	Conversions and reconversions	.....	5	(X)	8.6	(X)	31.3
37314 29	All other repairs	.....	20	(X)	58.5	(X)	69.9
	All others:						
37314 31	Conversions and reconversions	.....	12	(X)	284.6	(X)	281.9
37314 39	All other repairs	.....	45	(X)	363.9		
37314 00	Ship repair, U.S. military, n.s.k	.....	(NA)	(X)	2.4	(X)	3.4
37316 --	Ship repair, conversion, and reconversion, nonmilitary	.....	(NA)	(X)	789.1	(X)	484.2
	Maritime administration:						
37316 13	Conversions and reconversions	.....	8	(X)	19.2	(X)	52.2
37316 19	All other repairs	.....	19	(X)	55.2		
	All others:						
37316 53	Conversions and reconversions	.....	15	(X)	31.9	(X)	69.5
37316 59	All other repairs	.....	114	(X)	673.4	(X)	357.2
37316 00	Ship repair, nonmilitary, n.s.k	.....	(NA)	(X)	9.4	(X)	5.3
37310 00	Ship building and repairing, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	97.8	(X)	47.4
37310 02	Ship building and repairing, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	45.4	(X)	4.7

Note: In 1977 Census of Manufactures, shipments data for establishments of small companies, typically those with less than 10 employees (cut-off varied by industry) were estimated from administrative records data rather than collected from respondents. These shipments figures (discussed in the Introduction) are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded to appropriate product class (5 digits) followed by "00," or in some cases to appropriate industry (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1977, data for product codes 37311 11 and 37311 81 were combined to avoid disclosing operations of individual companies.

Table 6a-2. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	BOAT BUILDING AND REPAIRING						
3732- --	Total		(NA)	(X)	1,822.1	(X)	1,031.1
37322 --	Outboard motorboats, all types (including prefabricated kits), excluding sailboats with auxiliary power and lifeboats		(NA)	(X)	297.7	(X)	233.9
	Wood or metal:						
	Runabouts:						
37322 01	13 feet, 5 inches, and under in length	Number	7	*16,559	3.8	(S)	5.3
37322 02	13 feet, 6 inches, to 15 feet, 5 inches in length		11	21,489	8.9	30,626	7.1
37322 05	15 feet, 6 inches, to 17 feet, 5 inches in length		16	(S)	18.1	15,688	9.3
37322 07	17 feet, 6 inches, and over in length		14	(S)	9.8	3,612	6.8
37322 11	Utility		12	*20,656	17.9	54,411	13.3
37322 15	Cabin cruisers		1	(3)	(3)	1,079	6.2
	Plastic (reinforced) and fiberglass:						
	Runabouts:						
37322 41	13 feet, 5 inches, and under		7	**5,988	5.7	17,593	4.2
37322 43	13 feet, 6 inches, to 15 feet, 5 inches in length		36	23,131	30.0	51,863	40.1
37322 45	15 feet, 6 inches, to 17 feet, 5 inches in length		61	45,133	82.4	45,612	51.6
37322 46	17 feet, 6 inches, and over in length		48	*21,830	68.6	22,720	40.9
37322 47	Utility		10	**10,617	13.8	28,803	16.6
37322 48	Cabin cruisers		9	**1,886	7.3	1,563	7.1
37322 51	Prefabricated boat construction kits	Number	2	3(S)	31.2	1,168	4.9
37322 00	Outboard motorboats, n.s.k.		(NA)	(X)	30.1	(X)	20.5
37325 --	Inboard motorboats, including inboard-outdrive houseboats		(NA)	(X)	359.6	(X)	285.0
37325 11	Military (specially designed for the Army, Navy, or Coast Guard)	Number	3	(D)	(4)	(D)	(5)
	Nonmilitary, excluding sailboats with auxiliary power, lifeboats, and prefabricated boat construction kits:						
	Inboard powered boats, except houseboats:						
	Runabouts:						
37325 32	Wood or metal		1	(S)	4 53.1	10,711	21.7
37325 33	Plastic (reinforced), fiberglass		19				
	Cabin cruisers:						
	Wood or metal:						
37325 42	Under 26 feet in length		6	563	7.3	3,397	29.9
37325 44	26 feet or over but under 40 feet in length		15	2,313	60.0		
37325 46	40 feet and over in length		13	1,022	42.4		
	Plastic (reinforced), fiberglass:						
37325 61	Under 26 feet in length		22	**13,702	98.9	27,264	105.6
37325 63	26 feet or over but under 40 feet in length		15	*1,241	35.8	3,090	55.8
37325 65	40 feet and over in length		8	190	20.2	197	16.1
	Houseboats:						
37325 66	Inboard		9	(S)	12.1	1,382	18.6
37325 69	Inboard-outdrive	Number	4	(S)	5.5		
37325 00	Inboard motorboats, including inboard-outdrive houseboats, n.s.k.		(NA)	(X)	24.2	(X)	5 37.3
37326 --	Inboard-outdrive boats, except houseboats		(NA)	(X)	361.8	(X)	95.9
37326 73	Under 20 feet in length	Number	64	31,993	174.0	16,599	56.7
37326 75	20 feet and over in length	Number	56	*18,894	167.7	6,815	39.2
37326 00	Inboard-outdrive boats, except houseboats, n.s.k.		(NA)	(X)	20.1	(X)	-
37327 --	Boats, n.e.c., including sailboats, canoes, rowboats, etc.		(NA)	(X)	282.1	(X)	130.4
	Sailboats:						
37327 01	Under 12 feet in length	Number	3	2,497	1.2	39,375	84.6
37327 04	12 feet to 14 feet, 11 inches in length		10	16,191	12.2		
37327 07	15 feet and over in length		41	**24,404	189.5		
	Other boats:						
37327 11	Canoes		14	76,207	15.1	190,965	41.3
37327 12	Rowboats		4	27,419	5.9		
37327 19	All other boats, n.e.c.	Number	14	29,207	24.7		
37327 00	Boats, n.e.c., n.s.k.		(NA)	(X)	33.6	(X)	4.5
37328 --	Boat repair, military and nonmilitary		(NA)	(X)	173.2	(X)	74.3
37328 11	Repair of military boats (receipts for repair work done in 1977 on Army, Navy, or Coast Guard boats)		22	(X)	18.8	(X)	15.7
37328 21	Repair of nonmilitary boats (receipts for repair work done in 1977 on all other boats)		130	(X)	138.0	(X)	55.3
37328 00	Boat repair, military and nonmilitary, n.s.k.		(NA)	(X)	16.4	(X)	3.3
37320 00	Boat building and repairing, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	247.9	(X)	133.0
37320 02	Boat building and repairing, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	99.9	(X)	78.6

See footnotes at end of table.

Table 6a-2. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Product shipments[1]			Product shipments		
				Quantity[2]	Weight[2] (thousand short tons)	Value (million dollars)	Quantity	Weight (thousand short tons)	Value (million dollars)
	RAILROAD EQUIPMENT								
3743- --	Total[6]	.....	(NA)	(X)	(X)	4,001.9	(NA)	(X)	2,284.2
37431 --	Locomotives, both new and rebuilt, and parts	.....	(NA)	(X)	(X)	(D)	(NA)	(X)	(D)
	Locomotives:								
	Diesel-electric, except mining:								
37431 11	Rail service	Number	6						
37431 15	Other		1						
	Other than diesel-electric, except mining:			(D)	(D)	(D)	(D)	(D)	(D)
37431 21	Rail service		1						
37431 25	Nonrail service		1						
	Mining:								
37431 60	As reported in census of manufactures		9	(S)	(S)	25.4	(X)	(S)	18.4
	As reported in Current Industrial Report MA-35F, Mining Machinery		(NA)	599	(X)	28.0			
37431 13	Electric		4	183	(X)	16.4	(S)	(X)	18.4
37431 14	Battery		8						
37431 15	Diesel	Number	1	416	(X)	11.6			
	Parts for locomotives:								
37431 72	Airbrake equipment	.....	5	(X)	(X)	29.5	(X)	(X)	395.8
37431 79	Other, except wheels and axles	.....	24	(X)	(X)	501.2			
37431 00	Locomotives, new and rebuilt, and parts, n.s.k.	.....	(NA)	(X)	(X)	1.3	(X)	(X)	(D)
37432 --	Passenger and freight train cars, new, excluding parts	.....	(NA)	(X)	(X)	(D)	(NA)	(X)	(D)
	Freight train cars, new:								
37432 11	Box	Number	8	12,446	**417.3	432.6	14,931	480.8	289.4
37432 15	Flat		7	5,408	167.3	157.1	3,129	103.4	56.2
37432 25	Gondola		5	3,048	95.6	93.8	3,658	66.2	60.8
	Hopper covered:								
37432 28	Steel		7	10,302	324.0	319.3			
37432 32	Aluminum		-	-	-	-	9,874	(S)	192.6
37432 34	Other		-	-	-	-			
37432 31	Hopper uncovered		6	7,357	244.2	211.9	6,060	183.9	98.9
37432 41	Tank		6	7,578	(S)	272.5	4,412	(S)	96.9
37432 45	Caboose		2	(D)	(D)	(D)			
	Other freight cars, including refrigerator cars and industrial rail cars:						567	(S)	11.7
37432 51	Suitable for common carrier service		6	7,259	(S)	99.7			
37432 52	Not suitable for common carrier service		6	1,100	(S)	45.5			
	Passenger train cars, new:								
37432 61	Self-propelled		1	556	(S)	240.5	(D)	(D)	(D)
37432 62	Non-self-propelled	Number	5						
37432 00	Passenger and freight train cars, new, n.s.k.	.....	(NA)	(X)	(X)	5.8	(NA)	(X)	2.9
37433 --	Street, subway, trolley, and rapid transit cars, all rebuilt rail cars, and parts for all rail cars	.....	(NA)	(X)	(X)	899.1	(NA)	(X)	501.2
	Rebuilt passenger and freight train cars:								
37433 31	Passenger cars	Number	1	(D)	(D)	(7)	5,416	(S)	34.9
37433 51	Freight cars		15	(S)	(S)	34.4			
37433 61	Self-propelled street cars, subway cars, rapid transit, and trolley cars, new and rebuilt		6	375	(S)	122.5			
37433 62	Non-self-propelled street cars, subway cars, rapid transit, and trolley cars, new and rebuilt		4	309	(S)	85.4			
37433 69	Other work and service vehicles, excluding locomotive cranes, new and rebuilt	Number	4	(S)	(S)	7 24.1	(S)	(X)	457.4
	Parts and accessories for railroad and street cars:								
37433 71	Airbrake equipment	.....	6	(X)	(X)	155.2			
37433 79	Other, except wheels and axles	.....	51	(X)	(X)	464.3			
37433 00	Street, subway, trolley, and rapid transit cars, all rebuilt rail cars, and parts for all rail cars, n.s.k.	.....	(NA)	(X)	(X)	13.3	(NA)	(X)	8.9
37430 00	Railroad equipment, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	(X)	35.2	(NA)	(X)	20.3
37430 02	Railroad equipment, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	(X)	11.8	(NA)	(X)	3.3

See footnotes at end of table.

Table 6a-2. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	MOTORCYCLES, BICYCLES, AND PARTS						
3751- --	Total		(NA)	(X)	847.3	(X)	540.6
37511 --	Bicycles, adult tricycles, unicycles, and parts (excluding children's 2-wheel sidewalk cycles with semi-pneumatic tires).		(NA)	(X)	490.4	(X)	396.8
	Bicycles, complete, with one or both wheels 25 inches or more:						
37511 11	Single speed	Thousands	6	834.1	38.3		
37511 21	Three speed		7	744.7	40.9		
37511 31	Five speed		5	105.7	8.7		
37511 41	Ten speed or over		7	2,102.8	153.2	8,467.0	341.0
37511 51	Bicycles, complete, with both wheels less than 25 inches		6	3,411.4	152.7		
37511 59	Other bicycles, including unicycles and adult tricycles	Thousands	5	150.9	12.0		
37511 71	Parts for bicycles, including frame sets and motorbike parts which are interchangeable with bicycle parts		22	(X)	83.5	(X)	55.8
37511 00	Bicycles and parts, n.s.k		(NA)	(X)	1.0	(X)	-
37512 --	Motorcycles, motorbikes, mopeds, motor scooters, trail vehicles, and parts		(NA)	(X)	286.1	(X)	112.3
37512 13	Motorcycles (including 3-wheel but excluding side cars), trail vehicles, motor scooters, and motorbikes	Thousands	6	(NA)	285.7	183.3	79.4
37512 53	Parts for motorcycles (including side cars), trail vehicles, motorbikes, and motor scooters, but excluding motorbike parts which are interchangeable with bicycle parts		54			(X)	32.9
37512 00	Motorcycles and parts, n.s.k		(NA)	(X)	.5	(X)	-
37510 00	Motorcycles, bicycles, and parts, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	23.0	(X)	23.9
37510 02	Motorcycles, bicycles, and parts, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	47.7	(X)	7.6
	TRAVEL TRAILERS AND CAMPERS						
3792- --	Total		(NA)	(X)	1,477.6	(X)	1,276.5
37921 --	Travel trailers (trailers with rigid structure)		(NA)	(X)	882.2	(X)	619.9
37921 11	Less than 11 feet in length	Thousands	8	(S)	2.8	56.0	75.3
37921 31	11 feet to 15 feet, 11 inches in length		17	**8.3	19.3		
37921 33	16 feet to 24 feet, 11 inches in length		85	105.3	435.5	136.9	329.7
37921 35	25 feet and over in length, including park models	Thousands	91	72.8	413.8	48.4	214.9
37921 00	Travel trailers, n.s.k		(NA)	(X)	10.9	(X)	([8])
37922 --	Camping trailers, truck campers, pickup covers, and parts, including parts for travel trailers		(NA)	(X)	426.2	(X)	273.3
37922 42	Collapsible camping trailers	Thousands	19	*50.6	89.5	88.1	102.5
37922 44	Truck (pickup) campers for sliding on and off trucks		89	*50.8	99.8	82.4	149.1
37922 47	Truck (pickup) caps or box covers	Thousands	66	*286.5	84.7	97.2	21.7
37922 59	Parts and components for travel and camping trailers, truck (pickup) campers, and truck (pickup) caps, including chassis, frames, roofs, belly pans, landing gear, etc., but excluding appliances and furnishings		54	(X)	143.5	(X)	([9])
37922 00	Camping trailers, campers, pickup covers, and parts, n.s.k		(NA)	(X)	8.7	(X)	([8])
37920 00	Travel and camping trailers, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	115.5	(X)	[8] [10]334.9
37920 02	Travel and camping trailers, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	53.7	(X)	[10]48.4

See footnotes at end of table.

Table 6a-2. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of Shipments)

1977 product code	Product	Unit of measure	1977		1972, value of product shipments (million dollars)
			Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	TANKS AND TANK COMPONENTS				
3795- --	Total	.....	(NA)	1,015.1	285.1
37950 --	Tanks, self-propelled weapons, and other full-tracked combat vehicles, including utility vehicles, and parts:				
	Tanks and parts:				
37950 11	Medium and heavy	.....	26	601.8	
37950 15	Light	.....	2	49.9	
37950 51	Self-propelled weapons and parts	.....	3		
37950 98	Other full-tracked combat vehicles and parts, including armored utility vehicles	.....	14	352.2	
37950 00	Tanks and tank components, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	10.0	
37950 02	Tanks and tank components, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	1.2	

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	TRANSPORTATION EQUIPMENT, N.E.C.						
3799- --	Total	.....	(NA)	(X)	700.3	(X)	753.4
37993 --	Self-propelled golf carts and industrial in-plant personnel carriers and parts	.....	(NA)	(X)	108.2	(X)	54.1
37993 82	Self-propelled golf carts (electric and gasoline powered) for carrying passengers and/or industrial in-plant personnel carriers	Thousands	8	63.1	82.9	55.2	
37993 84	Parts for self-propelled golf carts	.....	5	(X)	23.3	(X)	54.1
37993 00	Self-propelled golf carts and personnel carriers, n.s.k.	.....	(NA)	(X)	2.0	(X)	
37994 --	Self-propelled snowmobiles and parts	.....	(NA)	(X)	157.1	(X)	203.1
37994 92	Self-propelled snowmobiles (electric and gasoline driven), ski supported	Thousands	7	118.0	124.8	248.0	
37994 94	Parts for self-propelled snowmobiles	.....	12	(X)	32.1	(X)	203.1
37994 00	Self-propelled snowmobiles and parts, n.s.k.	.....	(NA)	(X)	.2	(X)	
37999 --	Transportation equipment and parts, n.e.c.	.....	(NA)	(X)	353.6	(X)	436.7
37999 31	Automobile trailers, excluding travel, boat, and camping type trailers (commercial display, utility, etc.), complete units	Thousands	36	(S)	43.0	97.0	97.0
37999 35	Chassis for automobile trailers, except travel and camping, sold separately	Thousands	-	-	-	52.5	25.0
37999 51	Handcarts and pushcarts, including parts and attachments	.....	7	(X)	17.8	(X)	16.7
37999 53	Wheelbarrows	Thousands	5	1,447.2	31.6	573.2	17.9
37999 91	Boat trailers		69	*329.2	113.6	274.7	58.1
37999 92	All-terrain vehicles, gasoline or electric driven, for transport of people or goods, designed to traverse all types of terrain (off-the-highway operating or flotation type wheels or full tracks)	Thousands	10	(S)	23.6	(S)	12.7
37999 94	Parts for all-terrain vehicles	.....	9	(X)	11.1	(X)	
37999 98	Other miscellaneous transportation equipment and parts	.....	30	(X)	[11]103.6	(X)	[11]205.7
37999 00	Transportation equipment, n.e.c., n.s.k.	.....	(NA)	(X)	11.1	(X)	3.6
37990 00	Transportation equipment, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	51.6	(X)	50.4
37990 02	Transportation equipment, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	29.8	(X)	9.1

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Footnotes are continued on next page.

Table 6a-2. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: *indicates 10 to 19 percent estimates, **indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1977, data for product codes 37322 15 and 37322 51 were combined to avoid disclosing operations of individual companies.

[4]Data for product codes 37325 11, 37325 32, and 37325 33 were combined to avoid disclosing operations of individual companies.

[5]For 1972, data for product codes 37325 11 and 37325 00 were combined to avoid disclosing operations of individual companies.

[6]Excludes data for railroad equipment shipped by shops of operating railroads. (See table 6a-3).

[7]For 1977, data for product codes 37433 31 and 37433 69 were combined to avoid disclosing operations of individual companies.

[8]For 1972, data for product codes 37921 00 and 37922 00 were included with product code 37920 00.

[9]For 1972, data for product code 37922 59 was not collected separately; most of 1972 value of product shipments was probably included in Industry 3714, Motor Vehicle Parts and Accessories.

[10]For 1972, value also includes mobile homes not specified by kind. For 1977, data for mobile homes was collected in Industry 2451 Mobile Homes.

[11]For 1977, data for product code 37999 98 is not directly comparable with 1972, because some companies erroneously included parts for other transportation equipment in 1972.

Table 6a-3. **Products and Product Classes — Quantity and Value of Shipments of Railroad Equipment Shipped by Shops of Operating Railroads: 1977 and 1972**

1977 product code	Product	Unit of measure	1977				1972		
			Number of companies with shipments of $100,000 or more	Product shipments[1]			Product shipments		
				Quantity	Weight (thousand short tons)	Value[2] (million dollars)	Quantity	Weight (thousand short tons)	Value[2] (million dollars)
	RAILROAD EQUIPMENT								
3743- --	Total	.....	(NA)	(X)	(X)	272.9	(NA)	(X)	127.3
37431 --	Locomotives, both new and rebuilt, and parts	.....	(NA)	(D)	(D)	(D)	112	13.6	20.0
	Locomotives:								
	Diesel-electric, except mining:								
37431 11	Rail service	Number	3	(D)	(D)	(3)	112	13.6	20.0
37431 15	Other	Number	-	-	-	-			
	Other than diesel-electric, except mining:								
37431 21	Rail service		-	-	-	-	-	-	-
37431 25	Nonrail service		-	-	-	-	-	-	-
37431 60	Mining	Number	-	-	-	-	-	-	-
	Parts for locomotives:								
37431 72	Airbrake equipment	.....	2	(X)	(X)	(3)	-	-	-
37431 79	Other, except wheels and axles	.....	4	(X)	(X)	382.4	-	-	-
37431 00	Locomotives, new and rebuilt, and parts, n.s.k	.....	-	(X)	(X)	-	(X)	(X)	-
37432 --	Passenger and freight train cars, new, excluding parts	Number	(NA)	(D)	(D)	(D)	(NA)	(D)	(D)
	Freight train cars, new:								
37432 11	Box		3	1,812	49.6	49.6	1,214	42.0	21.9
37432 15	Flat		3				-	-	-
37432 25	Gondola		2				3,123	104.9	45.6
	Hopper covered:								
37432 28	Steel		1	(D)	(D)	(4)	-	-	-
37432 32	Aluminum		-	-	-	-	-	-	-
37432 34	Other		-	-	-	-	(5)	(S)	(5)
37432 31	Hopper uncovered		3	2,811	62.9	85.4	(5)	(S)	(5)
37432 41	Tank		-	-	-	-	-	-	-
37432 45	Caboose		1	(D)	(D)	(4)	(5)	(S)	(5)
	Other freight cars, including refrigerator cars and industrial rail cars:								
37432 51	Suitable for common carrier service		-	-	-	-	-	-	-
37432 52	Not suitable for common carrier service		-	-	-	-	-	-	-
	Passenger train cars, new:								
37432 61	Self-propelled		-	-	-	-	-	-	-
37432 62	Non-self-propelled	Number	-	-	-	-	-	-	-
37432 00	Passenger and freight train cars, new, n.s.k	.....	-	(X)	(X)	-	(X)	(X)	-
37433 --	Street, subway, trolley, and rapid transit cars, all rebuilt rail cars, and parts for all rail cars	.....	(NA)	(X)	(X)	(D)	(NA)	(X)	(D)
	Rebuilt passenger and freight train cars:								
37433 31	Passenger cars	Number	1	(D)	(D)	(4)	-	-	-
37433 51	Freight cars		4	583	82.9	7.5			
37433 61	Self-propelled street cars, subway cars, rapid transit, and trolley cars, new and rebuilt		-	-	-	-			
37433 62	Non-self-propelled street cars, subway cars, rapid transit, and trolley cars, new and rebuilt		-	-	-	-	52,927	(S)	539.8
37433 69	Other work and service vehicles, excluding locomotive cranes, new and rebuilt	Number	1	(D)	(D)	(4)			
	Parts and accessories for railroad and street cars:								
37433 71	Airbrake equipment	.....	3	(X)	(X)	(4)	(X)	(X)	-
37433 79	Other, except wheels and axles	.....	5	(X)	(X)	448.0	(X)	(X)	-
37433 00	Street, subway, trolley, and rapid transit cars, all rebuilt rail cars, and parts for all rail cars, n.s.k	.....	-	(X)	(X)	-	(X)	(X)	-
37430 00	Railroad equipment, n.s.k	.....	-	(X)	-	-	-	-	-

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For new equipment produced by railroads for their own use, value is that written into property accounts; for rebuilt equipment, value is added value written into property accounts.

[3]For 1977, product codes 37431 11, 37431 72, and 37431 79 were combined to avoid disclosing operations of individual companies.

[4]For 1977, product codes 37432 28, 37432 45, 37433 31, 37433 69, 37433 71, and 37433 79 were combined to avoid disclosing operations of individual companies.

[5]For 1972, product codes 37432 31, 37432 34, 37432 45, 37433 51, 37443 61, 37433 62, and 37433 69 were combined to avoid disclosing operations of individual companies.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
37311, NONPROPELLED SHIPS, NEW CONSTRUCTION		
United States	491.1	361.9
West South Central Division:		
Louisiana	104.1	91.9
Texas	82.8	88.3
Pacific Division:		
Washington	5.2	BB
Oregon	4.0	(NA)
37312, SELF-PROPELLED SHIPS, NEW, U.S. MILITARY		
United States	2,211.7	1,100.0
West South Central Division:		
Louisiana	29.9	GG
37313, SELF-PROPELLED SHIPS, NEW, NONMILITARY		
United States	1,917.3	816.1
South Atlantic Divison:		
Florida	102.9	EE
East South Central Division:		
Alabama	38.5	EE
Mississippi	33.3	GG
West South Central Division:		
Louisiana	441.5	148.5
Texas	65.1	28.1
Pacific Division:		
Washington	65.4	79.2
California	203.1	GG
37314, SHIP REPAIR, CONVERSION, U.S. MILITARY SHIPS		
United States	718.0	386.5
Middle Atlantic Division:		
New Jersey	5.9	1.8
South Atlantic Division:		
Florida	24.0	FF
Pacific Division:		
Washington	24.1	CC
California	190.0	GG
37316, SHIP REPAIR, CONVERSION, NONMILITARY SHIPS		
United States	789.1	484.2
New England Division:		
Massachusetts	3.9	5.0
Middle Atlantic Division:		
New York	39.6	31.7
New Jersey	34.1	21.0
Pennsylvania	14.4	7.3
South Atlantic Division:		
Florida	74.4	34.7
West South Central Division:		
Louisiana	129.0	60.5
Texas	65.2	61.4
Pacific Division:		
Washington	39.0	36.9
California	118.5	78.8
37322, OUTBOARD MOTORBOATS, INCLUDING PREFABRICATED KITS		
United States	297.7	233.9
East North Central Division:		
Indiana	33.1	13.4
Michigan	9.0	1.7
Wisconsin	8.4	3.1
37322, OUTBOARD MOTORBOATS, INCLUDING PREFABRICATED KITS--Con.		
West North Central Division:		
Minnesota	15.8	11.6
Missouri	8.6	CC
South Atlantic Division:		
South Carolina	13.3	2.6
Georgia	3.3	BB
Florida	34.8	32.2
East South Central Division:		
Tennessee	24.8	EE
Mississippi	5.2	(NA)
West South Central Division:		
Arkansas	19.5	16.6
Louisiana	16.2	14.8
Texas	40.0	30.4
Pacific Division:		
Washington	8.7	10.1
California	17.4	13.0
37325, INBOARD MOTORBOATS		
United States	359.6	285.0
South Atlantic Division:		
Florida	74.8	56.5
East South Central Division:		
Tennessee	18.6	EE
Alabama	4.3	(NA)
Pacific Division:		
Washington	38.2	30.0
California	29.4	10.8
37326, INBOARD-OUTDRIVE BOATS, EXCEPT HOUSEBOATS		
United States	361.8	95.9
East North Central Division:		
Indiana	19.1	(NA)
Michigan	29.8	EE
West North Central Division:		
Minnesota	32.9	EE
Missouri	2.4	(NA)
South Atlantic Division:		
Georgia	11.8	BB
Florida	46.4	15.6
West South Central Division:		
Arkansas	3.6	(NA)
Louisiana	6.0	(NA)
Oklahoma	3.5	AA
Texas	14.0	7.3
Pacific Division:		
Washington	68.6	FF
California	27.1	CC
37327, BOATS, N.E.C.		
United States	282.1	130.4
New England Division:		
Maine	5.5	3.5
Massachusetts	17.5	5.2
Rhode Island	22.4	CC
Middle Atlantic Division:		
New York	8.0	BB
East North Central Division:		
Indiana	12.5	8.1
Michigan	3.3	1.8
Wisconsin	4.4	1.7

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
37327, BOATS, N.E.C.--Con.		
West North Central Division:		
Minnesota	8.3	6.7
Missouri	2.9	BB
South Atlantic Division:		
Florida	37.3	EE
West South Central Division:		
Arkansas	4.7	BB
Louisiana	2.7	(NA)
Pacific Division:		
Washington	8.2	AA
California	97.8	42.3
37328, BOAT REPAIR, MILITARY AND NONMILITARY		
United States	173.2	74.3
New England Division:		
Maine	2.1	(NA)
Massachusetts	3.2	4.6
Connecticut	2.8	(NA)
Middle Atlantic Division:		
New York	11.4	BB
New Jersey	17.4	6.7
South Atlantic Division:		
Maryland	2.0	(NA)
Virginia	7.1	3.1
Florida	19.8	9.4
East South Central Division:		
Kentucky	8.0	AA
Mississippi	2.1	(NA)
West South Central Division:		
Louisiana	30.1	6.3
Texas	12.3	BB
Pacific Division:		
Washington	12.6	BB
California	21.3	9.5
37431, LOCOMOTIVES, BOTH NEW AND REBUILT, AND PARTS		
United States	(D)	(NA)
East North Central Division:		
Ohio	12.3	(NA)
37432, PASSENGER TRAIN AND FREIGHT TRAIN CARS, NEW		
United States	(D)	(NA)
Middle Atlantic Division:		
Pennsylvania	686.0	(NA)
East North Central Division:		
Ohio	116.0	(NA)
Indiana	188.6	(NA)
37433, STREET, SUBWAY, TROLLEY, AND RAPID TRANSIT CARS		
United States	899.1	501.2
Middle Atlantic Division:		
Pennsylvania	220.0	164.4
East North Central Division:		
Ohio	78.9	35.8
Indiana	61.9	FF
Illinois	222.9	GG
West North Central Division:		
Kansas	9.3	CC
East South Central Division:		
Kentucky	8.3	AA
Pacific Division:		
California	43.6	5.1
37511, BICYCLES, ADULT TRICYCLES, UNICYCLES, AND PARTS		
United States	490.4	396.8
East North Central Division:		
Indiana	3.7	BB
37512, MOTORCYCLES, MOTORBIKES, MOPEDS, MOTOR SCOOTERS		
United States	286.1	112.3
New England Division:		
Connecticut	5.9	BB
East North Central Division:		
Wisconsin	13.4	GG
Pacific Division:		
California	23.9	EE
37921, TRAVEL TRAILERS--TRAILERS WITH RIGID STRUCTURE		
United States	882.2	619.9
Middle Atlantic Division:		
Pennsylvania	39.3	EE
East North Central Division:		
Indiana	309.9	196.7
Michigan	42.0	29.1
West North Central Division:		
Kansas	29.9	10.2
South Atlantic Division:		
Georgia	21.5	5.7
West South Central Division:		
Texas	52.9	32.9
Mountain Division:		
Idaho	24.0	EE
Utah	5.7	CC
Pacific Division:		
Oregon	52.0	FF
California	159.7	104.8
37922, CAMPING TRAILERS, TRUCK CAMPERS, PICKUP COVERS		
United States	426.2	273.3
Middle Atlantic Division:		
Pennsylvania	30.6	CC
East North Central Division:		
Ohio	13.6	BB
Indiana	123.4	81.0
Michigan	41.2	29.4
Wisconsin	7.1	BB
West North Central Division:		
Missouri	6.0	2.9
Kansas	5.8	24.1
South Atlantic Division:		
North Carolina	3.4	5.2
Georgia	6.5	3.0
Florida	3.0	(NA)
West South Central Division:		
Oklahoma	10.6	4.1
Texas	12.9	3.5
Mountain Division:		
Idaho	6.1	9.4
Arizona	6.9	2.2
Pacific Division:		
Washington	7.1	AA
Oregon	13.4	EE
California	69.0	52.4

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
37994, SNOWMOBILES AND PARTS		
United States	157.1	(NA)
West North Central Division:		
Minnesota	116.6	(NA)
37999, TRANSPORTATION EQUIPMENT AND PARTS, N.E.C.		
United States	353.6	(NA)
Middle Atlantic Division:		
New York	2.4	(NA)
Pennsylvania	26.4	(NA)
East North Central Division:		
Ohio	13.7	(NA)
Indiana	14.7	(NA)
Wisconsin	12.4	(NA)
West North Central Division:		
Iowa	11.2	(NA)
Kansas	10.4	(NA)

Product class and geographic area	Value of product shipments	
	1977	1972
37999, TRANSPORTATION EQUIPMENT AND PARTS, N.E.C.--Con.		
South Atlantic Division:		
North Carolina	7.2	(NA)
Georgia	2.8	(NA)
Florida	8.9	(NA)
East South Central Division:		
Tennessee	9.3	(NA)
Mississippi	4.3	(NA)
West South Central Division:		
Louisiana	2.7	(NA)
Oklahoma	25.6	(NA)
Texas	52.5	(NA)
Mountain Division:		
Colorado	3.3	(NA)
Pacific Division:		
Oregon	5.0	(NA)
California	47.4	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3731-	Ship building and repairing	6,270.3	5,833.2	5,513.2	4,712.3	3,888.4	3,200.7	2,537.9	1,518.0
37311	Nonpropelled ships, new construction	491.1	645.0	643.2	459.8	385.6	361.9	149.0	82.2
37312	Self-propelled ships, new, U.S. military	2,211.7	1,956.7	1,768.2	1,713.8	1,333.3	1,100.0	973.8	681.8
37313	Self-propelled ships, new, nonmilitary	1,917.3	1,825.1	1,805.8	1,290.3	1,201.8	816.1	361.8	242.8
37314	Ship repair, conversion, U.S. military ships	718.0	644.3	554.6	533.0	392.9	386.5	423.0	221.9
37316	Ship repair, converson, nonmilitary ships	789.1	715.0	687.7	713.4	523.3	484.2	407.2	277.4
37310	Ship building and repairing, n.s.k.	143.2	(47.1)	(S)	(2.0)	51.5	52.1	43.2	11.9
3732-	Boat building and repairing	1,822.1	1,578.9	1,298.6	1,120.5	1,158.8	1,031.1	570.8	338.1
37322	Outboard motorboats, including prefabricated kits	297.7	318.5	250.1	224.5	200.0	233.9	70.2	79.6
37325	Inboard motorboats	359.6	219.6	228.8	217.7	312.8	285.0	259.0	125.9
37326	Inboard-outdrive boats, except houseboats	361.8	(420.2)	(279.7)	200.3	(162.1)	95.9		
37327	Boats not elsewhere classified	282.1	(359.5)	(279.7)	(250.6)	209.8	130.4	45.6	36.5
37328	Boat repair, military and nonmilitary	173.2	(171.9)	(184.0)	(156.5)	(81.2)	74.3	82.2	42.6
37320	Boat building and repairing, n.s.k.	347.8	(89.2)	(76.3)	(70.9)	192.9	211.6	114.0	53.5
3743-	Railroad equipment	4,001.9	3,336.1	3,884.7	3,308.3	2,512.3	2,284.2	1,943.5	1,249.1
37431	Locomotives, both new and rebuilt, and parts	(D)	2,620.4	3,256.8	2,564.5	2,034.1	1,759.4	569.1	378.1
37432	Passenger train and freight train cars, new	(D)						1,026.5	559.5
37433	Street, subway, trolley, and rapid transit cars	899.1	705.2	618.4	739.9	476.5	501.2	340.4	310.2
37430	Railroad equipment, n.s.k.	47.0	(S)	(S)	(3.9)	1.7	23.6	7.6	1.3
3751-	Motorcycles, bicycles, and parts[2]	847.3	688.3	704.4	879.9	721.1	540.6	226.3	151.2
37511	Bicycles, adult tricycles, unicycles, and parts	490.4	405.7	389.2	623.0	530.1	396.8	176.6	119.6
37512	Motorcycles, motorbikes, mopeds, motor scooters	286.1	272.8	301.9	249.7	170.1	112.3	45.5	28.8
37510	Motorcycles, bicycles, and parts, n.s.k.	70.7	(S)	(S)	7.2	20.9	31.5	4.3	2.8
3792-	Travel trailers and campers[3]	1,477.6	1,355.6	1,082.9	780.8	1,133.8	1,276.5	400.8	(NA)
37921	Travel trailers (trailers with rigid structure)[4]	882.2	1,043.1	775.9	444.0	597.3	619.9	186.6	64.9
37922	Camping trailers, truck campers, pickup covers[5]	426.2	(299.1)	(247.9)	241.1	285.1	273.3	115.6	(NA)
37920	Travel trailers and campers, n.s.k.[6]	169.2	(S)	(59.1)	(95.7)	251.4	383.3	98.6	(NA)
37950	Tanks, self-propelled weapons	1,015.1	751.9	524.2	362.7	374.4	285.1	409.3	454.4
3799-	Transportation equipment, n.e.c.	700.3	784.1	724.8	676.8	743.2	753.4	257.6	(NA)
37993	Golf carts and similar vehicles[2]	108.2	111.6	89.2	84.1	71.4	54.1	36.3	12.1
37994	Snowmobiles and parts[7]	157.1	(156.7)	133.8	78.7	129.0	203.1	36.3	(NA)
37999	Transportation equipment and parts, n.e.c.	353.6	(500.6)	490.8	499.0	476.8	436.7	151.3	(NA)
37990	Transportation equipment, n.e.c., n.s.k.	81.4	(S)	(S)	(15.0)	66.0	59.5	33.7	(NA)

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]For 1967 and 1963, golf carts, self-propelled, were included in industry 3751.

[3]For 1977 and 1972, industry 3792 products were equivalent to sum of 1967 product codes 37910 31 through 37910 41 and 37991 21.

[4]For 1977, product class 37921 products were equivalent to sum of 1967 product codes 37910 31, 37910 33, 37910 35, and part of 37991 21, where travel trailers less than 11 feet in length were reported. For 1972, they were equivalent to sum of 1972 product class 37921 and part of product code 37922 41, where travel trailers less than 11 feet in length were reported.

[5]For 1977, product class 37922 products are equivalent to sum of 1967 product code 37910 41 and part of 37991 21, where collapsible camping trailers were reported. For 1972, they were equivalent to 1972 product class 37922 less part of product code 37922 41, where travel trailers less than 11 feet in length were reported.

[6]For 1972 and prior years, includes n.s.k. for industry 2451.

[7]For 1977 and 1972, product class 37994 was equivalent to 1967 product code 37922 93.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3731, SHIP BUILDING AND REPAIRING					
	Materials, parts, containers, and supplies	.....	(X)	2,416.2	(X)	1,311.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bar and bar shapes	1,000 s. tons..	**58.4	22.4	109.2	21.5
331012	Sheet and strip		**18.2	7.6	73.8	14.3
331013	Plates		*1,037.5	367.8	888.1	186.5
331015	Structural shapes		*198.2	69.1	263.4	49.1
331017	Wire and wire products		**5.3	5.2	2.5	2.4
331019	All other carbon steel mill shapes and forms		**39.6	17.4	51.5	15.1
331020	Alloy steel, except stainless		25.7	23.6	17.7	10.4
	Stainless steel:					
331033	Sheet and strip		(S)	3.4	.9	1.2
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	*2.5	6.1	1.7	2.8
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content)..	12.1	17.2	6.3	8.7
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only	Million lb.....	**3.9	2.5	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	1.8	1.7	1.6
335143	Plate, sheet, and strip, including military cups and discs		1.9	2.3	.6	.5
335152	Pipe and tube		6.5	7.6	13.8	12.4
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		15.8	17.9	6.8	4.5
335405	Extruded shapes, including extruded rod, bar, pipe, etc		6.7	7.1	1.3	2.0
335008	All other aluminum mill shapes and forms, wire, rolled rod, etc	Million lb.....	.8	1.2	.7	1.3
	Castings, rough and semifinished:					
332045	Steel:					
	Purchased	1,000 s. tons..	*9.3	12.2	6.6	4.8
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	1.6	1.2	.1	.2
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		1.2	1.6	(D)	(D)
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semidiesel:					
	Purchased	Thousands.....	3.3	71.9	2.6	37.1
	Produced and consumed		(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor:					
	Purchased		*3.3	12.3	.9	1.8
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased		(S)	18.3	1.1	3.0
	Produced and consumed	Thousands.....	(S)	(X)	(S)	(X)
242103	Dressed lumber	Mil. bd. ft....	28.7	13.1	26.9	6.8
243056	Plywood	.....	(X)	8.6	(X)	3.2
322931	Glass fiber (both textile type, bonded mat type, etc.)	Million lb.....	*9.2	5.7	6.7	3.4
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	11.0	4.8	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	18.1	(X)	(2)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	2.4	(X)	(2)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	3.7	(X)	(2)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	27.1	(X)	(2)
356200	Ball and roller bearings	.....	(X)	5.9	(X)	(2)
356601	Speed changers, drives, and gears	.....	(X)	7.6	(X)	(2)
346901	Metal stampings	.....	(X)	2.8	(X)	(2)
369401	Engine electrical equipment, including spark plugs, magnetos, generators, starters, etc	.....	(X)	22.1	(X)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	1,451.3	(X)	2874.8
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	145.4	(X)	42.0

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3732, BOAT BUILDING AND REPAIRING					
	Materials, parts, containers, and supplies	.....	(X)	939.9	(X)	521.5
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bar and bar shapes	1,000 s. tons	(S)	1.3	2.2	.5
331012	Sheet and strip		(S)	1.0	5.4	1.2
331013	Plates		(S)	4.5	7.1	1.5
331015	Structural shapes		(S)	2.4	2.9	.8
331017	Wire and wire products		(S)	.2	(Z)	.1
331019	All other carbon steel mill shapes and forms		(S)	.8	.9	.3
331020	Alloy steel, except stainless		(S)	.5	2.1	1.1
	Stainless steel:					
331033	Sheet and strip		(S)	.4	.2	.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons	(S)	1.9	.2	.5
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content)	(S)	1.7	.2	.3
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb	(S)	.3	1.1	1.1
335143	Plate, sheet, and strip, including military cups and discs		(S)	.3	(Z)	(Z)
335152	Pipe and tube		(S)	.5	.3	.2
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		**24.5	19.6	154.2	15.0
335405	Extruded shapes, rod, bar, pipe, etc		**10.8	10.7	31.0	6.0
335008	All other aluminum mill shapes and forms (wire, rolled rod, etc.)	Million lb	(S)	.7	50.3	.4
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons	(S)	.9	.8	.4
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(S)	3.2	1.2	1.1
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	.8	.3	.5
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Engines:					
351920	Diesel and semi-diesel:					
	Purchased	Thousands	**4.0	18.3	2.0	7.3
	Produced and consumed		(S)	(X)	(S)	(X)
351901	Gasoline and other carburetor:					
	Purchased		*73.1	146.6	59.5	81.6
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp and over):					
	Purchased		3.9	7.4	1.4	2.1
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
369401	Engine electrical equipment, including spark plugs, magnetos, generators, starters, etc	.....	(X)	4.5	(X)	(2)
242103	Dressed lumber	Mil. bd. ft	(S)	15.0	24.3	7.0
243056	Plywood	.....	(X)	26.8	(X)	13.3
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	65.0	140.1	28.3
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	7.1	(X)	(2)
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	.7	(X)	(2)
322931	Glass fiber	Million lb	(S)	38.8	62.3	33.4
346901	Metal stampings	.....	(X)	.3	(X)	(2)
356200	Ball and roller bearings	.....	(X)	.3	(X)	(2)
356601	Speed changers, drives, and gears	.....	(X)	3.5	(X)	(2)
285101	Paints, lacquers, varnishes, enamels, japans, and shellacs	.....	(X)	8.5	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	8.3	(X)	(2)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	263.7	(X)	2164.0
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	273.4	(X)	153.1
	INDUSTRY 3743, RAILROAD EQUIPMENT					
	Materials, parts, containers, and supplies	.....	(X)	2,275.8	(X)	1,263.6
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	**89.3	36.4	112.3	23.0
331012	Sheet and strip		*274.4	98.1	238.1	43.8
331013	Plates		617.3	227.3	629.9	121.4
331015	Structural shapes		**217.8	77.0	232.8	47.0
331017	Wire and wire products		(S)	5.2	3.4	1.9
331019	All other carbon steel mill shapes and forms		*89.7	44.2	130.6	30.2
331020	Alloy steel, except stainless		**6.6	6.7	8.9	3.2
	Stainless steel:					
331033	Sheet and strip		(S)	13.7	3.3	5.8
331050	All other	1,000 s. tons	(S)	2.4		
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only	Million lb	(S)	13.8	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(D)	(D)		
335143	Plate, sheet, and strip, including military cups and discs		(S)	.4	15.9	12.0
335152	Pipe and tube	Million lb	*4.8	2.7		

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3743, RAILROAD EQUIPMENT--Continued					
	Mill shapes and forms, except casting--Continued					
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.	4.6	4.7	1.3	1.0
335405	Extruded shapes	Million lb.	**3.3	3.8	3.9	2.4
335008	All other aluminum shapes and forms	Million lb.				
	Castings (rough and semifinished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	*43.6	59.3	72.2	66.1
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		(S)	259.5	179.0	107.4
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	(S)	5.5	4.4	4.6
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	(S)	148.3	92.2	46.6
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
351920	Diesel and semi-diesel engines:					
	Purchased	Thousands	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362120	Integral horsepower electric motors and generators (1 hp. and over):					
	Purchased		(D)	(D)	9.8	4.9
	Produced and consumed	Thousands	(S)	(X)	(S)	(X)
356201	Roller bearings		(X)	53.8	(X)	40.3
356218	Ball bearings		(X)	.9		
356810	Plain bearings and bushings		(X)	(D)	(X)	(2)
356601	Speed changers, drives, gears, and power transmission equipment		(X)	(D)	(X)	(2)
351991	Diesel engine parts		(X)	(D)	(X)	(2)
374311	Locomotive parts, other than brakes		(X)	135.6	(X)	(2)
374332	Brakes, railway and street car (air and vacuum)				(X)	117.0
361302	Railway electrical control equipment		(X)	61.5	(X)	(2)
374331	Railway car and street car parts not listed above		(X)	231.6	(X)	4183.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	16.6	(X)	(2)
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	21.4	(X)	415.0
970099	All other materials and components, parts, containers, and supplies		(X)	561.5	(X)	2367.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	43.3	(X)	15.0
	INDUSTRY 3751, MOTORCYCLES, BICYCLES, AND PARTS					
	Materials, parts, containers, and supplies		(X)	627.8	(X)	339.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	6.5	3.3	10.3	3.0
331012	Sheet and strip		**120.2	44.7	142.2	29.3
331017	Wire and wire products		4.5	2.2	9.4	2.3
331019	All other carbon steel mill shapes and forms		**32.1	17.8	16.5	3.5
331015	Structural shapes					
331013	Plates		*6.7	2.5	2.0	.7
331025	Alloy steel, including stainless	1,000 s. tons			.5	.5
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb.	1.2	.9	(5)	(5)
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.		(S)	.5	1.1	.7
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.	(S)	.5	5(S)	5.3
	Castings (rough and semifinished):					
332045	Steel	1,000 s. tons	(D)	(D)	3.6	2.6
336100	Aluminum and aluminum-base alloy castings:					
	Purchased	Million lb.	2.2	4.0	(D)	(D)
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	4.8	9.4	5.6	5.9
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	2.4	(X)	1.7
356201	Roller		(X)	(Z)	(X)	.2
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	1.4	(X)	(2)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.	**3.9	2.7	(X)	(2)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	15.4	(X)	(2)
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	4.7	(X)	(2)
301101	Pneumatic tires and inner tubes		(X)	35.4	(X)	(2)
351901	Internal combustion engines, gasoline	Thousands	(S)	105.1	(X)	(2)
371411	Trailer axles, wheels, brakes, undercarriages, and other metal vehicular parts		(X)	5.5	(X)	(2)
339915	Metal powders	Million lb.	-	-	(X)	(2)
970099	All other materials and components, parts, containers, and supplies		(X)	309.7	(X)	241.3
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	54.8	(X)	41.5

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3792, TRAVEL TRAILERS AND CAMPERS					
	Materials, parts, containers, and supplies	.....	(X)	990.4	(X)	859.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	4.6	(S)	2.9
331012	Sheet and strip		(S)	15.9	16.4	3.5
331015	Structural shapes		39.8	12.0	33.0	7.7
331019	All other carbon steel mill shapes and forms		(S)	6.6	32.7	5.8
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(D)	(D)	.9	.3
331029	All other alloy steel mill shapes and forms		(S)	4.1	(S)	2.1
331031	Stainless steel	1,000 s. tons..	(S)	.4	(S)	.4
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content).	(S)	3.3	5.1	4.9
	Copper and copper-base alloy:					
335728	Bare wire (electrical conduction only)	Million lb.....	(S)	.1	.7	1.2
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	.3	1.6	2.3
335143	Plate, sheet, and strip, including military cups and discs		-	-		
335152	Pipe and tube		(S)	1.3		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	36.3	(S)	26.5
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**12.9	10.1	15.7	7.2
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welding tubing, etc.)	Million lb.....	(S)	2.0	5.6	3.4
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	(D)	(D)	(S)	2.2
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	1.7	(S)	.3
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
243056	Plywood	.....	(X)	54.2	(X)	31.0
242103	Dressed lumber	Million bd. ft.	(S)	21.0	(S)	22.2
229501	Coated, impregnated, and laminated fabrics	Million lin. yd.	(S)	16.2	(S)	9.5
243011	Millwork, including wood doors, window sash, moldings, and cabinets	.....	(X)	11.9	(X)	[4]21.0
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels	.....	(X)	7.3	(X)	[4]2.0
301101	Pneumatic tires and inner tubes	.....	(X)	21.4	(X)	[4]4.0
343201	Metal plumbing fixtures, fittings, and trim, including enameled	.....	(X)	18.8	(X)	[4]25.0
307902	Fabricated plastics products, except gaskets	.....	(X)	14.9	(X)	([2])
344201	Metal doors and door units, windows and window units	.....	(X)	38.8	(X)	([2])
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	14.0	(X)	[4]5.0
371411	Trailer axles, wheels, brakes, under carriages, and other metal vehicular parts	.....	(X)	62.9	(X)	[4]77.0
343301	Heating equipment, except electric	.....	(X)	19.8	(X)	[4]17.0
363001	Electric heating equipment, refrigerators, cooking equipment, and other household appliances, except air conditioners	.....	(X)	74.2	(X)	[4]60.0
344401	Fabricated sheet metal products, except stampings	.....	(X)	16.3	(X)	([2])
364300	Current-carrying wiring devices	.....	(X)	23.3	(X)	([2])
970099	All other materials and components, parts, containers, and supplies	.....	(X)	246.9	(X)	[2]248.5
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	223.9	(X)	266.1
	INDUSTRY 3795, TANKS AND TANK COMPONENTS					
	Materials, parts, containers, and supplies	.....	(X)	565.6	(X)	131.4
	Mill shapes and forms, except castings:					
	Carbon steel:					
331017	Wire and wire products	1,000 s. tons..				
331012	Sheet and strip					
331013	Plates				3.9	1.4
331015	Structural shapes					
331011	Bars and bar shapes					
331019	All other carbon steel mill shapes and forms		(D)	(D)		
	Alloy steel, except stainless:					
331021	Bars and bar shapes				13.5	7.0
331029	All other alloy steel mill shapes and forms				1.9	.9
	Stainless steel:					
331033	Sheet and strip				.2	.2
331050	All other stainless steel mill shapes and forms	1,000 s. tons..				
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content).	(D)	(D)	(D)	(D)
	Copper and copper-base alloy:					
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes	Million lb.....	(D)	(D)	(D)	(D)
335143	Plate, sheet, and strip, including military cups and discs					
335152	Pipe and tube		-	-	(D)	(D)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil					
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		(D)	(D)	(D)	(D)
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, extruded shapes, etc	Million lb.....				

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1977 and 1972—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3795, TANKS AND TANK COMPONENTS--Con.					
331051	Pig iron, excluding silvery iron	1,000 s. tons	(D)	(D)	-	-
999808	Aluminum and aluminum-base alloy scrap	Million lb	-	-	-	-
339915	Metal powders	Million lb	(D)	(D)	-	-
	Castings (rough and semi-finished):					
332011	Iron (gray and malleable):					
	Purchased	1,000 s. tons	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
332045	Steel:					
	Purchased		**3.4	10.9	(D)	(D)
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(D)	(D)	(D)	(D)
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Forgings:					
346200	Iron and steel:					
	Purchased	1,000 s. tons	(S)	32.6	7.1	2.6
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
346310	Aluminum and aluminum-base alloy:					
	Purchased	Million lb	(D)	(D)	(D)	(D)
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Fractional horse power electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Thousands	(D)	(D)	-	-
	Produced and consumed	Thousands	(S)	(X)	-	-
289217	Smokeless powder	Million lb	-	-	-	-
	Bearings:					
356218	Ball		(X)	(D)	(X)	(D)
356228	Roller		(X)	2.4	(X)	(D)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(D)	(D)	-	-
970099	All other materials and components, parts, containers, and supplies		(X)	331.1	(X)	85.7
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	8.9	(X)	1.6
	INDUSTRY 3799, TRANSPORTATION EQUIPMENT, N.E.C.					
	Materials, parts, containers, and supplies		(X)	356.7	(X)	408.4
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons	(S)	13.3	33.3	7.3
331012	Sheet and strip		(S)	29.2	124.9	22.6
331017	Wire and wire products		6.9	2.0	4.2	1.2
331013	Plates		*7.4	2.8	22.5	3.5
331015	Structural shapes		(S)	14.1	91.7	19.0
331019	All other carbon steel mill shapes and forms		(S)	15.4	59.9	21.5
331025	Alloy steel, including stainless	1,000 s. tons	.5	.4	(D)	(D)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	Million lb	(S)	1.9	54.3	22.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc	Million lb	5.6	4.3	9.5	5.1
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb	(D)	(D)	.8	.4
	Castings (rough and semifinished):					
332045	Steel	1,000 s. tons	1.9	1.6	(D)	(D)
336100	Aluminum and aluminum-base alloy castings:					
	Purchased	Million lb	(S)	3.4	5.4	.3
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3799, TRANSPORTATION EQUIPMENT, N.E.C.--Con.					
346200	Iron and steel forgings:					
	Purchased	1,000 s. tons	(S)	.8	3.7	1.8
	Produced and consumed	1,000 s. tons	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball		(X)	1.6	(X)	2.0
356201	Roller		(X)	2.6	(X)	1.4
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		(X)	3.0	(X)	[4]1.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(D)	(D)	(X)	[2]
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	2.6	(X)	[2]
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels		(X)	4.5	(X)	[4]4.0
301101	Pneumatic tires and inner tubes		(X)	16.1	(X)	[4]21.0
351901	Internal combustion engines, gasoline	Thousands	(D)	(D)	(X)	[2]
371411	Trailer axles, wheels, brakes, undercarriages, and other metal vehicular parts		(X)	31.4	(X)	[4]53.0
339915	Metal powders	Million lb	(X)	(D)	(X)	[2]
970099	All other materials and components, parts, containers, and supplies		(X)	94.5	(X)	[2]132.8
971000	Materials, parts, containers, and supplies, n.s.k.[3]		(X)	75.9	(X)	60.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 29 percent estimated. ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]For 1972, material code was included with material code 970099.

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[4]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[5]For 1972, material codes 335301 and 335008 were combined to avoid disclosing operations of individual companies.

Engineering, Measuring and Controlling and Optical Instruments

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DESCRIPTION OF INDUSTRIES

ENGINEERING, MEASURING AND CONTROLLING AND OPTICAL INSTRUMENTS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3811	Engineering and Scientific Instruments
3822	Environmental Controls
3823	Process Control Instruments
3824	Fluid Meters and Counting Devices
3825	Instruments to Measure Electricity
3829	Measuring and Controlling Devices, N.E.C.
3832	Optical Instruments and Lenses

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishments as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3811, ENGINEERING AND SCIENTIFIC INSTRUMENTS

This industry comprises establishments primarily engaged in the manufacture of laboratory, scientific, and engineering instruments such as nautical, navigational, aeronautical, surveying, and drafting; and instruments for laboratory work and scientific research (except optical instruments, in industry 3832). Establishments primarily engaged in the manufacture of surgical and medical instruments are classified in industry 38411; dental instruments and equipment in industry 3843; measuring, analyzing, and controlling instruments, including instruments for measuring electrical quantities and characteristics, in major industry group 382; watches and clocks in industry 3873; machinists' precision measuring tools in industry 3545; and measuring and dispensing pumps in industry 3586.

The total value of shipments for establishments classified in the Engineering and Scientific Instruments industry amounted to $1,927 million in 1977, an increase of 85 percent from 1972. The value of shipments of products classified as primary to the industry was $1,850 million, an increase of 67 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were laboratory and scientific apparatus, for which shipments increased 107 percent, and aeronautical, nautical, and navigational instruments, except aircraft instruments, excluding systems, for which shipments increased 40 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,287 million in 1977, was 89 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 42.3 thousand employees, an increase of 13 percent from 1972. The leading States in employment were California, New Jersey, Arizona, and Michigan, accounting for approximately 40 percent of the industry's 1977 employment. Data for Arizona have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. This represents a shift from 1972 when California, New York, Michigan, and Illinois accounted for approximately 40 percent of the industry's employment.

The 1977 census obtained data on shipments of engineering and scientific instruments only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of engineering and scientific instruments are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

INDUSTRY 3822, ENVIRONMENTAL CONTROLS

This industry comprises establishments primarily engaged in the

manufacture of temperature and related controls for heating and air-conditioning installations and refrigeration applications, which are electrically, electronically, or pneumatically actuated, and which measure and control variables such as temperature and humidity; and automatic regulators used as components of household applances. Establishments primarily engaged in the manufacture of industrial process controls are classified in industry 3823; motor control switches in Industry 3622, Industrial Controls; switches for household appliances in Industry 3643, Current-Carrying Wiring Devices; and appliances timers in Industry 3873, Watches, Clocks, and Watchcases.

The total value of shipments for establishments classified in the Environmental Controls industry amounted to $1,359 million in 1977, an increase of 87 percent from 1972. The value of shipments of products classified as primary to the industry was $1,106 million, an increase of 68 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $860 million in 1977, was 68 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 39.0 thousand employees, an increase of 27 percent from 1972. The leading States in employment were Ohio, Massachusetts, California, and Illinois, accounting for approximately 60 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of environmental controls only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of environmental controls are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3823, PROCESS CONTROL INSTRUMENTS

This industry comprises establishments primarily engaged in the manufacture of industrial instruments and related products for measuring, displaying (indicating and/or recording), transmitting, and controlling process variables in manufacturing, energy conversion, and public service utilities. These instruments operate mechanically, pneumatically, electronically, or electrically to measure process variables such as temperature, humidity, pressure, vacuum, combustion, flow, level, viscosity, density, acidity, alkalinity, specific gravity, gas and liquid concentration, sequence, time interval, mechanical motion, and rotation. Establishments primarily engaged in the manufacture of electrical integrating meters are classified in industry 3825; residential and commercial comfort controls in industry 3822; all liquid-in-glass and bimetal thermometers and glass hydrometers in industry 3829; recorder charts in major industry group 275; and optical instruments in industry 3832.

The total value of shipments for establishments classified in the Process Control Instruments industry amounted to $2,022 million in 1977, an increase of 123 percent from 1972. The value of shipments of products classified as primary to the industry was $2,061 million, an increase of 159 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,399 million in 1977, was 121 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 46.5 thousand employees, an increase of 20 percent from 1972. The leading States in employment were Pennsylvania, Massachusetts, California, and New York, accounting for approximately 60 percent of the industry's 1977 employment. This represents a shift from 1972 when Pennsylvania, Massachusetts, Illinois, and Ohio accounted for approximately 60 percent of the industry's employment.

The 1977 census obtained data on shipments of process control instruments only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of process control instruments are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3824, FLUID METERS AND COUNTING DEVICES

This industry comprises establishments primarily engaged in the manufacture of totalizing (registering) meters monitoring fluid flows, such as water meters and gas meters; and producers of mechanical and electromechanical counters and associated metering devices. Establishments primarily engaged in the manufacture of electricity integrating meters and electronic frequency counters are classified in industry 3825; and industrial process instruments in industry 3824.

The total value of shipments for establishments classified in the Fluid Meters and Counting Devices industry amounted to $650 million in 1977, an increase of 127 percent from 1972.

The value of shipments of products classified as primary to the industry was $634 million, an increase of 94 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were counting devices, for which shipments increased 201 percent. Value added by manufacture, at $429 million in 1977, was 137 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 15.9 thousand employees, an increase of 81 percent from 1972. The leading States in employment were Illinois, Pennsylvania, California, and Connecticut, accounting for approximately 65 percent of the industry's 1977 employment. This represents a shift from 1972 when Connecticut, Pennsylvania, Wisconsin, and California were in the forefront.

The 1977 census obtained data on shipments of fluid meters and counting devices only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of fluid meters and counting devices are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3825, INSTRUMENTS TO MEASURE ELECTRICITY

This industry comprises establishments primarily engaged in the manufacture of instruments for measuring the characteristics of electricity and electric signals, such as voltmeters, ammeters, wattmeters, watt-hour meters, demand meters, and equipment for testing the electric characteristics of electrical, radio, and communication circuits, and of internal combusion engines. Establishments primarily engaged in the manufacture of electronic checkout, monitoring, evaluating, and other electronic support equipment for electronic navigational, radar, sonar, and other communication systems are classified in Industry 3662, Radio and TV Communication Equipment.

The total value of shipments for establishments classified in the Instruments to Measure Electricity industry amounted to $2,761 million in 1977, an increase of 85 percent from 1972. The value of shipments of products classified as primary to the industry was $2,566 million, an increase of 93 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were equivalent to test electrical, radio, and communication circuits and motors, for which shipments increased 105 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,808 million in 1977, was 77 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 66.5 thousand employees, an increase of 26 percent from 1972. The leading States in employment were California, Oregon, Illinois, and Colorado, accounting for approximately 50 percent of the industry's 1977 employment. Data for Oregon and Colorado have been withheld to avoid disclosing operations of individual companies.

The 1977 census obtained data on shipments of instruments to measure electricity only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of instruments to measure electricity are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

INDUSTRY 3829, MEASURING AND CONTROLLING DEVICES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of measuring and controlling devices, not elsewhere classified, including testing instruments to determine the physical properties of materials, nucelar instruments, aircraft engine instruments, and liquid-in-glass and bimetal thermometers. The total value of shipments for establishments classified in the Measuring and Controlling Devices, N.E.C. industry amounted to $1,118 million in 1977, an increase of 94 percent from 1972. The value of shipments of products classified as primary to the industry was $1,073 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were physical properties and kinematic testing and inspection equipment, for which shipments increased 160 percent, and commercial, meteorological, and general purpose instruments, for which shipments increased 140 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $747 million in 1977, was 97 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 32.3 thousand employees, an increase of 50 percent from 1972. The leading States in

employment were California, Illinois, Pennsylvania, and Ohio, accounting for approximately 55 percent of the industry's 1977 employment.

The 1977 census obtained data on shipments of measuring and controlling devices, n.e.c. only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of measuring and controlling devices, n.e.c. are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3832, OPTICAL INSTRUMENTS AND LENSES

This industry comprises establishments primarily engaged in the manufacture of instruments that measure an optical property; apparatus, except photographic, that projects or magnifies, such as binoculars, prisms, and lenses; optical sighting and firecontrol equipment; and related analytical instruments. Establishments primarily engaged in the manufacture of eyeglass lenses, frames, or fittings are classified in Industry 3851, Ophthalmic Goods; laboratory testing and scientific instruments are classified in industry 3811; and electronic tracking and fire-control systems in industry 3662.

The total value of shipments for establishments classified in the Optical Instruments and Lenses industry amounted to $1,336 million in 1977, an increase of 151 percent from 1972. The value of shipments of products classified as primary to the industry was $1,300 million, an increase of 122 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were sighting, tracking, and fire-control equipment, for which shipments increased 174 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $902 million in 1977, was 135 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 30.2 thousand employees, an increase of 62 percent from 1972. The leading States in employment were California, Massachusetts, New York, and Connecticut, accounting for approximately 60 percent of the industry's 1977 employment. Data for Connecticut have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972, although there has been some shift in the relative importance of individual States.

The 1977 census obtained data on shipments of optical instruments and lenses only at product class levels. This is the source of the data in table 6a described "As reported in census of manufactures." Detailed figures on the shipments of optical instruments and lenses are reported annually in the Census Bureau's Current Industrial Reports (CIR) MA-38B, Selected Instruments and Related Products. Some of these data are also shown in table 6a.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3811, ENGINEERING AND SCIENTIFIC INSTRUMENTS																
1977 Census.	740	786	279	42.3	584.4	24.7	48.7	280.7	1 287.2	681.4	1 926.7	57.4	(NA)	470.1	85	79
1976 ASM....	(NA)	(NA)	(NA)	43.5	575.7	25.4	51.3	262.7	1 223.8	636.7	1 846.8	44.4	406.0	449.9	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	46.4	561.4	26.8	54.0	261.1	1 112.1	609.0	1 780.4	40.1	(S)	434.6	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	46.4	520.6	28.1	55.1	249.2	1 056.5	578.5	1 587.6	41.0	(S)	477.6	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	41.3	429.5	25.0	48.4	211.3	818.1	456.2	1 243.8	28.3	(S)	336.1	(NA)	(NA)
1972 Census.	703	743	266	36.7	358.8	22.2	43.2	183.1	653.2	361.6	1 023.4	18.8	(S)	256.5	88	72
1971 ASM....	(NA)	(NA)	(NA)	44.3	401.3	26.9	52.3	204.7	685.2	408.6	1 105.0	25.3	321.7	292.1	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	50.5	437.3	31.3	61.9	226.9	725.3	436.9	1 180.6	23.2	310.8	277.5	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	47.2	384.3	29.1	58.2	198.5	661.4	421.1	1 054.8	25.7	253.4	253.2	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	45.2	347.3	29.1	59.2	183.5	633.1	407.5	1 031.9	26.6	230.2	230.7	(NA)	(NA)
1967 Census.	642	677	282	46.1	327.1	31.4	64.0	191.2	617.4	405.5	1 000.8	21.8	214.9	218.6	88	74
1966 ASM....	(NA)	(NA)	(NA)	38.3	259.5	26.4	54.7	154.5	471.5	304.8	748.7	15.0	(NA)	177.6	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	31.0	203.0	21.3	43.1	118.0	355.1	227.6	583.6	12.8	(NA)	115.8	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	30.7	194.0	21.3	42.8	115.8	304.9	215.1	520.1	15.0	116.9	113.6	(NA)	(NA)
1963 Census.	571	594	213	33.1	208.2	22.2	44.6	119.8	358.6	200.0	533.9	16.2	106.6	122.1	84	56
INDUSTRY 3822, ENVIRONMENTAL CONTROLS																
1977 Census.	182	201	91	39.0	450.3	30.6	57.9	315.6	859.6	529.4	1 358.7	47.7	(NA)	285.9	80	92
1976 ASM....	(NA)	(NA)	(NA)	31.5	336.6	23.3	44.1	217.3	737.2	376.8	1 071.7	21.6	239.7	227.0	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	26.6	274.2	18.3	34.5	164.7	526.9	275.0	827.3	11.6	241.9	183.9	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	33.3	303.8	24.3	45.0	193.4	594.3	338.2	916.8	26.2	247.0	209.5	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	33.0	288.1	25.5	48.4	191.4	606.8	281.3	857.8	18.0	208.3	176.2	(NA)	(NA)
1972 Census.	117	131	62	30.7	253.6	23.3	44.5	166.4	511.8	223.8	728.1	17.1	201.9	141.3	86	90
1971 ASM....	(NA)	(NA)	(NA)	30.0	241.2	21.6	40.8	150.4	449.6	218.1	659.6	19.4	207.5	139.8	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	32.6	242.2	23.5	44.5	151.3	441.3	209.9	649.6	17.3	200.0	132.5	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	33.2	243.8	24.3	48.2	155.3	451.2	210.7	653.5	20.4	180.7	141.6	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	32.8	229.1	23.8	47.0	145.0	462.6	211.3	672.6	15.8	161.2	130.0	(NA)	(NA)
1967 Census.	88	105	54	31.4	210.8	22.6	45.2	131.1	419.7	193.9	618.0	13.2	166.9	124.6	81	91
1966 ASM....	(NA)	(NA)	(NA)	32.6	215.8	23.1	46.8	136.6	439.3	198.9	628.5	20.1	(NA)	138.8	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	32.7	209.9	23.2	47.5	133.7	414.6	189.7	595.5	13.6	(NA)	122.7	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	32.6	200.6	22.7	45.2	122.1	401.8	160.7	550.6	10.2	155.1	109.2	(NA)	(NA)
1963 Census.	89	104	54	31.7	192.3	22.3	45.5	122.2	379.1	158.1	527.4	10.5	155.9	110.8	82	95
INDUSTRY 3823, PROCESS CONTROL INSTRUMENTS[3]																
1977 Census.	382	426	207	46.5	664.8	23.4	47.0	265.9	1 399.4	657.1	2 022.0	52.1	(NA)	555.9	90	80
1976 ASM....	(NA)	(NA)	(NA)	35.6	465.0	18.1	36.3	182.5	954.0	419.5	1 357.2	35.1	337.6	393.5	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	40.2	528.5	18.6	37.0	180.7	819.6	423.4	1 237.9	31.1	343.1	410.4	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	41.6	503.4	20.1	40.6	185.1	868.7	444.0	1 245.5	31.4	347.3	421.4	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	40.8	441.0	20.4	41.5	169.6	739.3	338.4	1 039.1	31.9	344.5	339.0	(NA)	(NA)
1972 Census.	175	192	133	35.6	342.9	18.4	37.1	146.8	620.4	271.1	883.6	27.3	325.0	271.7	86	83
INDUSTRY 3824, FLUID METERS AND COUNTING DEVICES[3]																
1977 Census.	100	111	62	15.9	197.6	11.2	22.5	118.0	429.0	231.3	650.4	19.9	(NA)	148.8	80	80
1976 ASM....	(NA)	(NA)	(NA)	13.8	161.5	9.5	18.3	93.5	352.1	187.3	531.7	12.8	186.8	129.4	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	13.4	143.9	9.2	17.9	82.4	297.0	162.9	475.0	12.7	178.9	119.9	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	13.2	126.0	9.4	18.8	75.0	272.4	168.3	431.5	13.2	134.1	110.7	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	9.7	85.3	6.6	13.5	49.5	196.6	129.1	322.7	9.6	116.8	83.7	(NA)	(NA)
1972 Census.	51	61	43	8.8	76.8	5.9	11.7	43.1	180.9	108.1	296.2	7.0	105.7	65.2	90	79
INDUSTRY 3825, INSTRUMENTS TO MEASURE ELECTRICITY																
1977 Census.	621	671	279	66.5	889.1	40.4	78.3	414.5	1 807.7	1 026.8	2 761.0	99.1	(NA)	668.9	90	89
1976 ASM....	(NA)	(NA)	(NA)	61.1	759.2	37.7	72.3	359.3	1 507.1	842.8	2 365.5	71.1	566.3	547.7	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	60.9	700.8	37.7	70.5	328.5	1 452.9	714.1	2 198.9	69.8	529.9	523.5	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	67.9	689.3	43.6	84.5	338.1	1 390.2	713.3	2 073.8	75.5	492.9	550.0	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	60.2	563.8	38.9	77.2	289.4	1 191.8	585.0	1 735.6	60.4	463.9	460.5	(NA)	(NA)
1972 Census.	606	632	252	54.7	523.5	34.6	68.7	257.9	1 046.8	524.9	1 540.8	39.3	443.9	382.2	80	88
1971 ASM....	(NA)	(NA)	(NA)	50.4	434.4	31.4	61.1	217.6	825.9	406.2	1 244.9	30.7	390.5	337.7	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	56.7	450.5	35.1	67.7	227.3	868.9	428.3	1 266.6	48.7	373.2	364.9	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	60.4	471.1	38.0	74.0	228.9	896.3	454.2	1 330.2	44.7	331.9	351.9	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	61.3	450.9	39.0	76.2	225.7	852.8	418.0	1 259.0	53.1	330.6	321.9	(NA)	(NA)
1967 Census.	502	546	274	61.5	423.9	40.4	78.7	222.3	799.7	397.0	1 184.0	53.7	320.9	283.9	84	79
1966 ASM....	(NA)	(NA)	(NA)	56.3	375.9	38.6	77.1	208.7	702.1	333.5	1 020.5	32.8	(NA)	258.0	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	49.1	318.3	31.4	65.4	173.1	580.1	287.2	863.4	25.8	(NA)	194.2	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	43.2	279.0	28.6	61.3	153.0	521.4	246.5	769.3	17.1	224.7	179.0	(NA)	(NA)
1963 Census.	536	560	209	44.7	273.6	30.1	59.9	149.6	505.3	245.4	749.2	19.2	210.6	181.3	84	78

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years – Con.

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3829, MEASURING AND CONTROLLING DEVICES, N.E.C.[3]															
1977 Census.	649	670	210	32.3	464.0	15.8	31.8	174.5	746.6	405.8	1 118.1	49.3	(NA)	320.0	89	83
1976 ASM....	(NA)	(NA)	(NA)	26.9	377.8	13.1	26.8	131.9	551.1	316.4	854.1	19.5	244.0	247.6	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	26.5	343.2	12.8	25.7	115.3	531.0	302.3	843.8	21.0	233.4	231.6	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	27.9	324.7	14.9	30.5	129.8	538.5	305.2	816.4	28.1	233.8	235.7	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	24.6	253.1	15.4	30.1	127.8	511.8	227.3	722.3	32.4	210.9	191.5	(NA)	(NA)
1972 Census.	579	595	153	24.6	256.7	12.4	26.6	108.0	394.9	213.3	601.4	14.7	162.7	164.9	86	77
	INDUSTRY 3832, OPTICAL INSTRUMENTS AND LENSES															
1977 Census.	509	546	200	30.2	423.5	17.1	34.0	189.7	901.8	456.1	1 335.6	51.2	(NA)	303.3	84	82
1976 ASM....	(NA)	(NA)	(NA)	26.3	348.8	14.6	28.9	150.1	695.2	338.2	1 028.5	24.7	256.7	244.2	(NA)	(NA)
1975 ASM....	(NA)	(NA)	(NA)	22.7	282.8	12.9	24.3	122.0	571.8	280.8	859.5	23.9	215.9	200.2	(NA)	(NA)
1974 ASM....	(NA)	(NA)	(NA)	20.1	237.8	11.8	23.2	108.8	499.4	252.2	744.4	15.3	191.2	162.9	(NA)	(NA)
1973 ASM....	(NA)	(NA)	(NA)	18.5	201.1	10.9	21.0	89.2	385.5	193.9	594.5	13.6	185.2	142.4	(NA)	(NA)
1972 Census.	467	494	146	18.8	193.3	10.4	20.6	85.1	384.3	175.4	538.4	12.7	200.6	156.2	92	79
1971 ASM....	(NA)	(NA)	(NA)	17.0	162.2	10.4	20.8	85.5	290.4	131.3	420.6	7.9	163.0	94.0	(NA)	(NA)
1970 ASM....	(NA)	(NA)	(NA)	21.1	292.4	12.8	25.8	102.0	332.3	156.7	492.9	12.1	143.7	92.3	(NA)	(NA)
1969 ASM....	(NA)	(NA)	(NA)	27.8	248.4	15.9	32.8	122.1	429.8	212.8	639.4	15.4	(NA)	124.8	(NA)	(NA)
1968 ASM....	(NA)	(NA)	(NA)	28.4	240.0	16.5	34.6	116.5	394.7	200.9	590.3	26.0	(NA)	117.2	(NA)	(NA)
1967 Census.	301	316	117	25.4	203.5	15.6	32.8	104.2	347.4	169.0	508.4	17.1	(NA)	103.2	(NA)	(NA)
1966 ASM....	(NA)	(NA)	(NA)	20.7	159.5	12.7	26.8	83.7	267.8	145.1	397.9	13.9	(NA)	94.8	(NA)	(NA)
1965 ASM....	(NA)	(NA)	(NA)	19.5	145.9	13.0	27.4	86.1	262.6	136.5	385.0	[5]8.3	(NA)	85.4	(NA)	(NA)
1964 ASM....	(NA)	(NA)	(NA)	18.8	130.3	12.0	24.3	72.1	216.0	100.3	311.2	9.2	76.4	70.5	(NA)	(NA)
1963 Census.	285	293	87	21.1	146.0	14.1	27.8	83.7	228.2	126.9	352.6	9.8	71.4	76.6	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3811, ENGINEERING AND SCIENTIFIC INSTRUMENTS											
1977 Census..	13 824	(NA)	58	1 970	5.76	35	65	(NA)	30 451	45	26.42
1976 ASM.....	13 234	9 333	58	2 019	5.12	34	65	21	28 133	47	23.85
1975 ASM.....	12 099	(S)	57	2 014	4.83	34	65	(S)	23 967	50	20.59
1974 ASM.....	11 219	(S)	60	1 960	4.52	36	69	(S)	22 769	49	19.17
1973 ASM.....	10 399	(S)	60	1 936	4.36	36	71	(S)	19 808	52	16.90
1972 Census..	9 777	(S)	60	1 946	4.24	35	70	(S)	17 798	55	15.12
1971 ASM.....	9 058	7 261	60	1 944	3.91	36	73	29	15 467	58	13.10
1970 ASM.....	8 659	6 154	61	1 977	3.66	37	74	26	14 362	60	11.71
1969 ASM.....	8 141	5 368	61	2 000	3.41	39	76	24	14 012	58	11.36
1968 ASM.....	7 683	5 092	64	2 034	3.09	39	73	22	14 006	54	10.69
1967 Census..	7 095	4 661	68	2 038	2.98	40	73	21	13 392	52	9.64
1966 ASM.....	6 775	(NA)	68	2 071	2.82	40	75	(NA)	12 310	55	8.61
1965 ASM.....	6 548	(NA)	68	2 023	2.73	38	73	(NA)	11 454	57	8.23
1964 ASM.....	6 319	3 807	69	2 009	2.70	41	78	22	9 931	63	7.12
1963 Census..	6 290	3 220	67	2 009	2.68	37	76	19	10 833	58	8.04
INDUSTRY 3822, ENVIRONMENTAL CONTROLS											
1977 Census..	11 542	(NA)	78	1 892	5.44	38	72	(NA)	22 033	52	14.84
1976 ASM.....	10 685	7 609	73	1 892	4.92	35	66	22	23 403	45	16.71
1975 ASM.....	10 308	9 093	68	1 885	4.77	33	66	29	19 808	52	15.27
1974 ASM.....	9 123	7 417	72	1 851	4.29	36	70	26	17 846	51	13.20
1973 ASM.....	8 730	6 312	77	1 898	3.95	32	66	24	18 387	47	12.53
1972 Census..	8 260	6 576	75	1 909	3.73	30	65	27	16 671	49	11.50
1971 ASM.....	8 040	6 916	72	1 888	3.68	33	69	31	14 986	53	11.01
1970 ASM.....	7 429	6 134	72	1 893	3.40	32	69	30	13 536	54	9.91
1969 ASM.....	7 343	5 442	73	1 983	3.22	32	69	27	13 590	54	9.36
1968 ASM.....	6 984	4 914	72	1 974	3.08	31	65	23	14 103	49	9.84
1967 Census..	6 713	5 315	71	2 000	2.90	31	65	27	13 366	50	9.28
1966 ASM.....	6 619	(NA)	70	2 025	2.91	31	65	(NA)	13 475	49	9.38
1965 ASM.....	6 418	(NA)	70	2 047	2.81	31	67	(NA)	12 678	50	8.72
1964 ASM.....	6 153	4 757	69	1 991	2.70	29	65	28	12 325	49	8.88
1963 Census..	6 066	4 917	70	2 040	2.68	29	66	29	11 958	50	8.33
INDUSTRY 3823, PROCESS CONTROL INSTRUMENTS											
1977 Census..	14 297	(NA)	50	2 012	5.65	32	65	(NA)	30 094	47	29.75
1976 ASM.....	13 061	9 483	50	2 005	5.02	30	65	24	26 797	48	26.28
1975 ASM.....	13 146	8 534	46	1 989	4.88	34	76	27	20 388	64	22.15
1974 ASM.....	12 100	8 348	48	2 019	4.55	35	76	27	20 882	57	21.39
1973 ASM.....	10 808	8 443	50	2 034	4.08	32	75	33	18 120	59	17.81
1972 Census..	9 632	9 129	52	2 016	3.96	31	69	37	17 427	55	16.72
INDUSTRY 3824, FLUID METERS AND COUNTING DEVICES											
1977 Census..	12 452	(NA)	70	2 015	5.25	35	65	(NA)	27 042	46	19.09
1976 ASM.....	11 702	13 536	68	1 926	5.10	35	65	35	25 514	45	19.24
1975 ASM.....	10 738	13 350	68	1 945	4.60	34	64	37	22 164	48	16.59
1974 ASM.....	9 545	10 159	71	2 000	3.98	39	68	31	20 636	46	14.48
1973 ASM.....	8 793	12 041	68	2 045	3.66	40	66	36	20 268	43	14.56
1972 Census..	8 727	12 011	67	1 983	3.68	36	62	36	20 557	42	15.46
INDUSTRY 3825, INSTRUMENTS TO MEASURE ELECTRICITY											
1977 Census..	13 376	(NA)	60	1 938	5.29	37	69	(NA)	27 199	49	23.07
1976 ASM.....	12 425	9 268	61	1 917	4.96	35	67	23	24 666	50	20.84
1975 ASM.....	11 507	8 701	61	1 870	4.65	32	64	24	23 857	48	20.60
1974 ASM.....	10 151	7 259	64	1 938	4.00	34	67	23	20 474	49	16.45
1973 ASM.....	9 365	7 705	64	1 984	3.74	33	66	26	19 797	47	15.43
1972 Census..	9 570	8 115	63	1 986	3.75	34	68	29	19 137	30	15.24
1971 ASM.....	8 619	7 748	62	1 946	3.56	33	68	31	16 387	53	13.52
1970 ASM.....	7 945	6 582	62	1 929	3.36	34	69	29	15 325	52	12.83
1969 ASM.....	7 780	5 495	63	1 947	3.09	34	70	25	14 839	53	12.11
1968 ASM.....	7 356	5 393	64	1 954	2.96	33	69	26	13 911	53	11.19
1967 Census..	6 893	5 218	66	1 948	2.82	34	69	27	13 003	53	10.16
1966 ASM.....	6 677	(NA)	69	1 997	2.71	33	70	(NA)	12 471	54	9.11
1965 ASM.....	6 483	(NA)	64	2 082	2.65	33	70	(NA)	11 815	55	8.87
1964 ASM.....	6 458	5 201	66	2 143	2.50	32	68	29	12 069	54	8.51
1963 Census..	6 121	4 711	67	1 990	2.50	33	69	28	11 304	54	8.44

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years** – Con.

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3829, MEASURING AND CONTROLLING DEVICES, N.E.C.										
1977 Census..	14 367	(NA)	49	2 011	5.47	36	77	(NA)	23 118	62	23.44
1976 ASM.....	14 044	9 070	48	2 045	4.92	37	81	28	20 486	68	20.56
1975 ASM.....	12 950	8 807	48	2 007	4.48	35	39	27	20 037	65	20.66
1974 ASM.....	11 637	8 379	53	2 046	4.25	37	77	28	19 301	60	17.65
1973 ASM.....	10 288	8 573	62	1 954	4.24	31	66	29	20 804	49	17.00
1972 Census..	10 435	6 614	50	2 145	4.06	35	78	27	16 053	65	14.85
	INDUSTRY 3832, OPTICAL INSTRUMENTS AND LENSES										
1977 Census..	14 013	(NA)	56	1 991	5.58	34	65	(NA)	29 840	46	26.52
1976 ASM.....	13 262	9 760	55	1 979	5.19	32	66	24	26 433	50	24.05
1975 ASM.....	12 458	9 511	56	1 883	5.02	32	65	25	25 189	49	23.53
1974 ASM.....	11 830	9 512	58	1 966	4.68	33	65	25	24 845	47	21.52
1973 ASM.....	10 870	10 010	58	1 926	4.24	32	66	31	20 837	52	18.35
1972 Census..	13 239	13 739	71	1 980	4.13	32	68	37	26 321	50	18.65
1971 ASM.....	9 541	9 588	61	2 000	4.11	31	70	39	17 082	56	13.96
1970 ASM.....	13 858	6 810	60	2 016	3.95	32	91	29	15 749	88	12.88
1969 ASM.....	8 935	(NA)	57	2 063	3.72	33	72	(NA)	15 460	57	13.10
1968 ASM.....	8 451	(NA)	58	2 097	3.37	34	75	(NA)	13 898	61	11.41
1967 Census..	8 012	(NA)	61	2 103	3.15	33	73	(NA)	13 677	59	10.59
1966 ASM.....	7 705	(NA)	61	2 110	3.12	36	77	(NA)	12 937	60	9.99
1965 ASM.....	7 482	(NA)	67	2 108	3.14	35	73	(NA)	13 467	56	9.58
1964 ASM.....	6 930	4 064	64	2 025	2.97	32	74	25	11 489	60	8.89
1963 Census..	6 919	3 384	67	1 972	3.01	36	77	20	10 815	64	8.21

Note: For qualifications to data, see footnotes on table 1a.
(NA) Not available. (S) Withheld because estimate did not meet publication standards.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3811, ENGINEERING AND SCIENTIFIC INSTRUMENTS														
United States	-	**786**	**279**	**42.3**	**584.4**	**24.7**	**48.7**	**280.7**	**1 287.2**	**691.4**	**1 926.7**	**57.4**	**36.7**	**653.2**
New England Division:														
Maine	-	7	3	0.3	3.5	0.2	0.4	2.1	7.3	5.1	11.9	(D)	AA	(D)
Massachusetts	-	73	28	2.9	40.5	1.9	3.2	22.5	87.9	36.5	122.9	3.7	2.0	44.9
Connecticut	-	27	9	1.0	13.2	0.6	1.1	6.2	31.8	16.3	45.5	(D)	1.1	16.5
Middle Atlantic Division:														
New York	E1	68	25	1.9	24.2	1.2	2.3	13.3	56.4	33.1	88.4	1.1	4.0	68.7
New Jersey	-	46	22	3.9	62.8	2.0	4.1	27.8	118.2	66.1	184.4	4.7	1.9	35.0
Pennsylvania	-	47	17	2.4	28.8	1.4	3.0	15.7	78.6	37.8	113.8	2.6	2.0	38.8
East North Central Division:														
Ohio	E1	32	13	1.2	14.7	0.7	1.4	7.7	29.4	19.0	47.9	2.7	0.6	8.5
Indiana	-	8	3	0.4	4.8	0.2	0.5	1.8	7.1	3.7	10.5	0.2	0.6	8.6
Illinois	-	49	17	2.6	31.6	1.3	2.6	13.6	88.4	55.8	140.8	2.4	3.3	51.6
Michigan	-	32	12	3.4	48.8	2.5	4.8	34.5	85.0	45.1	128.1	(D)	3.5	59.0
Wisconsin	-	11	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	2.4	34.4
West North Central Division:														
Minnesota	-	8	3	0.7	10.2	0.3	0.6	3.4	29.5	12.0	37.8	0.8	0.7	12.9
Iowa	-	9	4	0.8	11.5	0.4	0.8	4.9	20.0	11.3	29.5	(D)	1.0	16.6
Missouri	E1	6	3	0.3	3.3	0.2	0.4	1.7	8.5	4.5	12.5	(D)	(NA)	(NA)
Kansas	-	9	4	0.5	4.9	0.3	0.6	2.8	10.4	5.2	16.1	0.7	0.2	3.6
South Atlantic Division:														
Delaware	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland	E1	25	6	0.7	9.9	0.4	0.9	4.5	23.8	11.8	31.0	1.0	0.7	12.4
Virginia	-	6	4	0.3	3.7	0.2	0.3	2.1	9.0	3.5	11.1	0.3	(NA)	(NA)
North Carolina	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Carolina	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Florida	E1	20	8	1.0	10.8	0.7	1.3	6.2	26.0	14.9	39.1	(D)	0.7	2.2
East South Central Division:														
Tennessee	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Arkansas	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E4	43	14	1.2	14.6	0.9	1.8	8.8	30.6	18.0	47.1	1.5	1.5	21.8
Mountain Division:														
Colorado	E2	21	4	0.3	2.8	0.1	0.2	1.1	6.2	3.4	9.4	0.3	AA	(D)
Arizona	-	10	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Pacific Division:														
Washington	-	10	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
California	E1	150	49	5.7	82.2	3.4	7.3	38.9	183.5	88.9	266.4	6.3	4.5	100.6
INDUSTRY 3822, ENVIRONMENTAL CONTROLS														
United States	-	**201**	**91**	**39.0**	**450.3**	**30.6**	**57.9**	**315.6**	**859.6**	**529.4**	**1 358.7**	**47.7**	**30.7**	**511.8**
New England Division:														
Massachusetts	-	7	3	5.6	72.2	5.1	9.7	61.3	118.0	118.1	235.7	22.1	CC	(D)
Rhode Island	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Connecticut	-	6	4	0.6	6.6	0.4	0.8	4.0	10.7	5.7	16.9	0.4	CC	(D)
Middle Atlantic Division:														
New York	-	9	5	0.5	4.7	0.4	0.8	2.9	8.3	4.9	13.0	0.3	CC	(D)
New Jersey	E1	16	4	0.2	1.9	0.1	0.2	1.0	3.6	2.0	5.6	(D)	(NA)	(NA)
Pennsylvania	-	15	6	2.1	20.8	1.7	2.8	15.2	33.2	16.8	51.0	0.4	FF	(D)
East North Central Division:														
Ohio	-	24	16	6.9	68.9	5.7	10.5	51.2	121.2	59.8	178.8	3.0	5.3	71.9
Indiana	-	5	3	2.0	21.5	1.5	3.4	14.4	35.7	15.1	47.7	1.9	EE	(D)
Illinois	-	15	7	4.9	65.2	3.1	6.0	38.0	133.6	88.7	216.4	4.7	6.2	112.1
West North Central Division:														
Minnesota	-	5	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Iowa	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
South Atlantic Division:														
Maryland	-	4	4	0.5	8.0	0.2	0.5	2.3	8.9	4.8	13.3	0.3	BB	(D)
South Carolina	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Kentucky	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Tennessee	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West South Central Division:														
Texas	E5	9	5	0.3	3.7	0.3	0.5	2.4	7.6	3.5	10.8	(D)	0.2	2.8
Pacific Division:														
California	-	34	12	5.2	60.9	4.2	7.9	42.8	113.7	56.6	161.7	3.2	FF	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3823, PROCESS CONTROL INSTRUMENTS														
United States	-	**426**	**207**	**46.5**	**664.8**	**23.4**	**47.0**	**265.9**	**1 399.4**	**657.1**	**2 022.0**	**52.1**	**35.6**	**620.4**
New England Division:														
New Hampshire	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	-	28	11	7.1	101.5	3.4	7.1	37.2	181.8	121.4	297.0	(D)	6.2	76.3
Connecticut	-	21	13	2.7	37.3	1.4	2.6	15.9	83.2	24.7	102.9	1.5	EE	(D)
Middle Atlantic Division:														
New York	-	32	20	4.2	59.6	1.8	3.5	19.1	128.4	50.4	174.9	4.0	2.7	57.8
New Jersey	E1	26	12	0.8	10.5	0.4	0.8	4.2	26.7	11.1	37.2	0.9	0.8	10.4
Pennsylvania	-	28	17	10.1	161.5	4.7	10.0	61.8	330.2	123.5	442.0	10.3	8.9	170.8
East North Central Division:														
Ohio	-	19	9	3.2	45.5	1.5	3.0	18.4	85.8	40.8	127.4	1.5	3.6	49.2
Indiana	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Illinois	-	33	21	3.2	42.4	1.8	3.3	19.8	80.1	42.6	130.3	(D)	4.4	62.7
Michigan	-	13	3	0.2	3.7	0.1	0.3	2.0	10.4	3.5	13.9	0.1	CC	(D)
Wisconsin	E1	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	4.3
West North Central Division:														
Minnesota	-	8	6	1.6	24.2	0.8	1.7	9.9	56.1	29.2	79.3	2.0	(NA)	(NA)
Iowa	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Atlantic Division:														
Virginia	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
West Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Florida	E2	11	3	0.3	3.7	0.2	0.3	1.5	7.1	3.2	9.6	0.2	AA	(D)
East South Central Division:														
Kentucky	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
West South Central Division:														
Louisiana	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	-	11	7	1.0	14.6	0.4	0.7	3.8	26.4	13.4	37.5	1.8	(NA)	(NA)
Texas	E2	33	14	1.4	16.6	0.9	1.7	7.7	43.4	24.8	66.0	2.3	BB	(D)
Mountain Division:														
Colorado	-	9	3	0.2	3.2	0.1	0.2	1.1	9.1	3.1	12.2	0.2	(NA)	(NA)
Arizona	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Pacific Division:														
California	E1	81	39	5.5	80.4	2.8	5.9	32.0	194.4	96.3	285.9	9.5	EE	(D)
INDUSTRY 3824, FLUID METERS AND COUNTING DEVICES														
United States	-	**111**	**62**	**15.9**	**197.6**	**11.2**	**22.5**	**118.0**	**429.0**	**231.3**	**650.4**	**19.9**	**8.8**	**180.9**
New England Division:														
Massachusetts	E4	6	2	0.2	1.9	0.1	0.2	1.0	4.1	2.4	6.5	0.2	BB	(D)
Connecticut	-	7	6	1.3	16.5	0.8	1.6	7.1	24.1	19.2	43.5	1.6	EE	(D)
Middle Atlantic Division:														
New York	E4	8	3	0.2	1.7	0.1	0.3	1.1	2.7	1.4	4.1	(Z)	BB	(D)
New Jersey	-	8	4	0.5	6.2	0.3	0.6	2.6	14.2	9.0	23.0	(D)	0.4	6.5
Pennsylvania	-	8	7	3.3	41.3	2.4	4.7	26.5	113.1	61.1	174.6	4.4	EE	(D)
East North Central Division:														
Illinois	-	9	6	3.4	40.3	2.6	5.3	27.4	64.9	36.1	97.9	(D)	AA	(D)
Wisconsin	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West North Central Division:														
Nebraska	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
North Carolina	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Carolina	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Georgia	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Alabama	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	2	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Texas	-	6	3	0.3	4.1	0.2	0.4	2.2	9.0	3.8	12.3	(D)	BB	(D)
Mountain Division:														
Colorado	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	-	15	9	2.0	31.7	1.4	2.6	17.7	58.3	27.1	92.3	3.1	BB	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3825, INSTRUMENTS TO MEASURE ELECTRICITY														
United States	-	**671**	**279**	**66.5**	**889.1**	**40.4**	**78.3**	**414.5**	**1 807.7**	**1 026.8**	**2 761.0**	**99.1**	**54.7**	**1 046.8**
New England Division:														
New Hampshire	-	14	11	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Massachusetts	-	42	15	4.2	64.9	2.0	3.7	21.5	131.1	59.6	185.4	6.7	3.4	67.4
Rhode Island	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Connecticut	-	20	11	1.0	12.6	0.6	1.3	5.6	24.8	13.5	39.8	0.9	1.1	14.2
Middle Atlantic Division:														
New York	E1	61	27	3.5	48.3	1.9	4.0	20.9	103.0	49.0	148.3	4.0	3.4	65.0
New Jersey	-	44	20	3.5	52.2	1.7	3.3	20.8	107.9	74.4	176.2	3.0	2.4	35.2
Pennsylvania	-	38	13	1.6	19.0	1.1	2.1	11.0	37.5	17.3	52.5	1.0	2.0	32.8
East North Central Division:														
Ohio	-	39	20	3.0	33.7	2.0	3.8	16.4	68.0	38.6	104.3	2.5	2.8	48.3
Indiana	E2	15	8	1.9	20.6	1.4	2.7	12.3	42.6	20.6	61.2	1.6	EE	(D)
Illinois	E1	37	18	5.4	65.0	3.2	5.9	33.0	152.1	121.9	269.8	3.8	4.7	97.1
Michigan	-	26	12	1.6	25.3	1.0	1.9	12.0	49.3	30.3	75.3	(D)	1.1	18.8
Wisconsin	E1	10	5	0.6	4.3	0.5	1.0	3.1	6.6	4.8	12.2	(D)	CC	(D)
West North Central Division:														
Minnesota	E2	12	6	0.2	2.6	0.1	0.2	1.2	5.4	3.6	8.5	0.2	(NA)	(NA)
South Dakota	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Kansas	-	6	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	10	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	1	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
South Carolina	E0	2	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Florida	E7	14	2	0.3	2.9	0.2	0.5	1.8	5.5	2.5	7.9	0.2	0.4	3.4
West South Central Division:														
Texas	E1	31	10	1.2	14.5	0.8	1.4	6.2	35.1	19.1	52.1	3.1	1.3	21.9
Mountain Division:														
Colorado	-	11	5	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Nevada	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	8	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Oregon	-	5	2	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
California	-	164	71	13.0	181.5	7.9	15.9	93.3	433.8	197.9	617.6	28.3	FF	(D)
INDUSTRY 3829, MEASURING AND CONTROLLING DEVICES, N.E.C.														
United States	-	**670**	**210**	**32.3**	**464.0**	**15.8**	**31.8**	**174.5**	**746.6**	**405.8**	**1 118.1**	**49.3**	**24.6**	**394.9**
New England Division:														
Vermont	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Massachusetts	-	41	13	2.2	32.9	1.3	2.5	14.2	66.6	28.7	92.5	(D)	EE	(D)
Connecticut	-	29	16	2.0	26.8	1.1	2.2	12.1	55.1	33.2	86.1	1.9	1.1	16.4
Middle Atlantic Division:														
New York	-	65	31	2.5	27.8	1.6	3.0	14.1	55.8	26.4	80.5	3.1	1.5	28.1
New Jersey	E1	33	15	1.1	13.8	0.7	1.3	6.3	31.3	20.2	50.7	3.6	0.9	17.6
Pennsylvania	-	47	19	3.2	42.8	2.5	5.3	31.1	86.9	36.2	117.4	1.8	2.1	39.4
East North Central Division:														
Ohio	-	39	16	2.9	45.7	1.4	2.9	16.1	77.0	42.8	119.4	2.3	EE	(D)
Illinois	-	37	15	3.2	49.8	1.3	2.9	16.2	101.4	64.3	159.5	4.8	FF	(D)
Michigan	-	35	13	0.8	12.2	0.5	1.0	6.6	25.7	12.0	36.7	(D)	0.6	11.2
Wisconsin	-	17	4	0.3	3.5	0.2	0.5	1.9	8.7	5.1	13.6	(D)	(NA)	(NA)
West North Central Division:														
Missouri	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
North Carolina	-	5	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Florida	E1	21	2	0.2	2.0	0.2	0.3	1.4	3.6	2.6	6.1	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	6	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	4.4
West South Central Division:														
Texas	E1	41	11	0.9	11.4	0.6	1.1	6.4	33.3	13.5	44.1	1.6	0.6	6.2
Mountain Division:														
New Mexico	-	4	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
California	-	136	26	9.1	152.3	2.3	4.7	29.3	118.9	74.0	182.7	22.3	5.0	46.9

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3832, OPTICAL INSTRUMENTS AND LENSES														
United States	-	**548**	**200**	**30.2**	**423.5**	**17.1**	**34.0**	**189.7**	**901.8**	**456.1**	**1 335.6**	**51.2**	**18.8**	**384.3**
New England Division:														
New Hampshire	-	6	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Massachusetts	-	62	31	4.9	66.5	2.2	4.4	26.4	136.7	69.6	205.4	12.2	EE	(D)
Connecticut	-	15	7	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Middle Atlantic Division:														
New York	-	82	22	4.3	62.6	2.5	5.0	29.6	129.4	53.3	178.1	5.5	FF	(D)
New Jersey	-	34	13	0.7	9.4	0.4	0.9	4.5	17.3	10.6	28.0	0.6	BB	(D)
Pennsylvania	-	28	13	1.5	21.3	1.1	2.5	13.3	53.5	25.6	77.4	(D)	0.9	19.4
East North Central Division:														
Ohio	-	9	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Indiana	-	10	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	-	21	8	1.4	19.9	0.9	1.7	8.2	38.2	28.1	65.2	0.6	0.7	13.0
Michigan	-	18	3	0.7	9.0	0.5	1.0	5.0	25.3	11.3	36.4	(D)	0.4	5.3
Wisconsin	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Minnesota	-	10	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Iowa	E1	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nebraska	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
South Atlantic Division:														
Maryland	-	14	4	0.5	6.5	0.4	0.8	4.2	11.1	5.0	15.8	0.3	0.2	3.0
Virginia	-	8	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Florida	-	12	4	0.3	3.5	0.2	0.4	1.7	8.5	5.9	14.3	1.3	BB	(D)
East South Central Division:														
Mississippi	-	4	2	0.3	2.7	0.2	0.4	1.7	4.1	1.3	5.4	(D)	(NA)	(NA)
West South Central Division:														
Texas	-	19	7	1.5	15.7	1.1	2.1	9.0	29.5	16.9	46.8	1.2	0.6	9.5
Mountain Division:														
Colorado	-	13	6	0.6	7.5	0.4	0.9	4.1	13.2	12.7	25.4	0.3	(NA)	(NA)
Pacific Division:														
Oregon	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
California	-	118	51	5.7	84.5	3.1	6.1	39.5	192.6	90.6	278.1	7.8	5.3	92.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Engineering and scientific instruments (SIC 3811)	Environmental controls (SIC 3822)	Process control instruments (SIC 3823)	Fluid meters and counting devices (SIC 3824)	Instruments to measure electricity (SIC 3825)	Measuring and controlling devices, n.e.c. (SIC 3829)	Optical instruments and lenses (SIC 3832)
Primary product specialization ratio[1]	percent	85	80	90	80	90	89	84
Coverage ratio[2]	do	79	92	80	80	89	83	82
All establishments	number	786	201	426	111	671	670	546
With 1 to 19 employees	do	507	110	219	49	392	480	346
With 20 to 99 employees	do	203	50	129	27	159	156	134
With 100 employees or more	do	76	41	78	35	120	54	66
All employees, average for year	1,000	42.3	39.0	46.5	15.9	66.5	32.3	30.2
Payroll for year, all employees	mil. dol.	584.4	450.3	664.8	197.6	889.1	464.0	423.5
Production workers:								
Average for year	1,000	24.7	30.6	23.4	11.2	40.4	15.8	17.1
March	do	24.2	29.1	23.1	11.0	38.9	15.3	16.9
May	do	24.5	30.5	23.2	11.0	39.4	15.6	16.9
August	do	24.9	31.3	23.6	11.1	41.3	15.9	17.0
November	do	25.2	31.5	23.4	11.5	42.0	16.5	17.4
Hours	millions	48.7	57.9	47.0	22.5	78.3	31.8	34.0
January to March	do	12.1	14.6	11.7	5.6	19.0	7.6	8.3
April to June	do	12.2	14.8	11.7	5.7	19.4	8.1	8.5
July to September	do	12.1	13.9	11.6	5.4	19.6	7.8	8.2
October to December	do	12.4	14.7	12.0	5.8	20.3	8.4	9.0
Wages	mil. dol.	280.7	315.6	265.9	118.0	414.5	174.5	189.7
Cost of materials, etc.	do	681.4	529.4	657.1	231.3	1 026.8	405.8	456.1
Materials, parts, containers, etc., consumed	do	556.1	490.8	566.7	213.0	859.2	357.5	399.9
Resales	do	86.9	(D)	50.2	(D)	112.3	27.9	30.7
Fuels consumed	do	4.7	4.1	4.0	2.0	5.5	2.6	3.0
Purchased electric energy	do	13.6	11.9	12.0	5.0	16.8	8.9	10.2
Contract work	do	20.0	(D)	24.3	(D)	33.0	8.9	12.4
Value of shipments, including resales	do	1 926.7	1 358.7	2 022.0	650.4	2 761.0	1 118.1	1 335.6
Value of resales	do	126.5	(D)	67.6	(D)	144.0	42.6	41.2
Value added by manufacture	do	1 287.2	859.6	1 399.4	429.0	1 807.7	746.6	901.8
Manufacturers' inventories:								
Beginning of year	do	421.4	250.7	507.8	136.7	580.1	277.0	272.1
Finished products	do	83.3	51.3	101.5	28.4	123.2	74.2	71.0
Work in process	do	195.3	154.1	236.5	74.5	273.8	115.9	131.3
Materials, supplies, fuel, etc.	do	142.7	45.3	169.8	33.8	183.0	87.0	69.8
End of year	do	470.1	285.9	555.9	148.8	668.9	320.0	303.3
Finished products	do	98.0	56.5	113.1	31.4	134.6	83.3	76.3
Work in process	do	222.5	179.2	259.4	81.5	336.0	141.0	148.4
Materials, supplies, fuel, etc.	do	149.6	50.2	183.4	35.9	198.3	95.6	78.6
Capital expenditures for plant and equipment	do	59.3	56.3	56.0	21.0	103.9	50.3	53.4
New capital expenditures	do	57.4	47.7	52.1	19.9	99.1	49.3	51.2
New buildings and other structures	do	13.7	11.0	14.9	4.9	28.8	14.8	18.2
New machinery and equipment	do	43.7	36.7	37.2	15.0	70.3	34.5	33.0
Used capital expenditures	do	1.9	8.6	3.9	1.1	4.8	1.0	2.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Engineering and scientific instruments (SIC 3811)		Environmental controls (SIC 3822)		Process control instruments (SIC 3823)		Fluid meters and counting devices (SIC 3824)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	2.6	5	1.6	7	2.1	3	1.9	11
Response coverage ratio[2] (percent)	65	(X)	65	(X)	70	(X)	82	(X)
Machinery	3.8	8	6.2	6	4.4	5	4.9	5
Response coverage ratio[2] (percent)	68	(X)	58	(X)	59	(X)	80	(X)
Cost of purchased communication services	9.5	8	4.0	13	(14.9)	30	(2.2)	28
Response coverage ratio[2] (percent)	67	(X)	90	(X)	86	(X)	61	(X)
Rental payments	19.2	5	4.8	4	17.1	7	3.2	5
Buildings and other structures	10.4	9	1.3	7	7.0	11	1.2	6
Machinery and equipment	8.8	4	3.4	3	10.1	7	2.0	4
Supplemental labor costs	103.3	2	94.3	1	116.5	2	31.4	2
Legal costs	46.6	2	37.9	1	47.0	2	15.5	1
Voluntary costs	56.7	3	56.4	1	69.5	3	15.9	3
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	154.0	5	93.3	2	153.4	8	71.5	3
New capital expenditures	(11.1)	34	10.6	3	14.1	7	5.1	10
Used capital expenditures	(0.9)	34	2.0	1	2.8	12	(1.2)	93
Retirements	(2.3)	19	0.6	7	6.7	4	4.2	1
End of year	163.7	5	105.3	2	163.5	7	73.6	5
Machinery and equipment:								
Beginning of year	259.0	4	167.1	3	262.6	5	136.0	3
New capital expenditures	40.3	5	39.4	2	36.3	9	14.5	3
Automobiles, trucks, etc., for highway use[3]	(1.7)	(A)	(0.2)	(A)	(1.8)	(A)	(0.1)	(A)
Computers and peripheral data processing equipment[3]	(4.1)	(A)	(1.2)	(A)	(1.9)	(A)	(0.3)	(A)
All other[3]	(31.0)	(65)	(32.7)	(61)	(27.3)	(73)	(11.8)	(A)
New machinery and equipment, n.s.k.[4]	(3.4)	(A)	(5.3)	(A)	(5.3)	(A)	(2.3)	(A)
Used capital expenditures	0.5	12	5.4	1	1.2	14	(2.6)	61
Retirements	20.3	10	14.5	2	20.9	5	9.0	2
End of year	279.5	3	197.5	3	279.1	6	144.1	4
Total gross value of depreciable assets:								
Beginning of year	413.0	4	260.4	2	415.9	3	207.5	3
New capital expenditures	51.4	10	50.1	2	50.3	6	19.6	4
Used capital expenditures	(1.4)	23	7.4	1	4.0	9	(3.8)	71
Retirements	22.6	9	15.1	2	27.6	4	13.3	2
End of year	443.2	3	302.8	2	442.6	4	217.7	4
Depreciation charges during 1977	38.1	3	23.3	2	31.1	5	14.9	3
Buildings and other structures	9.8	4	4.2	2	6.5	7	3.0	2
Machinery and equipment	28.3	4	19.1	3	24.6	6	11.9	3

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Instruments to measure electricity (SIC 3825)		Measuring and controlling devices, n.e.c. (SIC 3829)		Optical instruments and lenses (SIC 3832)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	4.8	9	2.3	13	(2.6)	67
Response coverage ratio[2] (percent)	70	(X)	75	(X)	60	(X)
Machinery	8.5	6	(4.6)	20	(3.2)	76
Response coverage ratio[2] (percent)	69	(X)	58	(X)	60	(X)
Cost of purchased communication services	15.6	10	10.0	10	(7.8)	27
Response coverage ratio[2] (percent)	70	(X)	79	(X)	60	(X)
Rental payments	27.8	4	18.4	5	12.9	11
Buildings and other structures	13.3	5	7.6	9	(5.1)	59
Machinery and equipment	14.5	6	10.8	4	(7.8)	21
Supplemental labor costs	141.5	2	74.7	2	66.1	5
Legal costs	73.9	1	26.1	2	30.1	2
Voluntary costs	67.6	4	48.6	3	36.0	9
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning or year	243.5	4	88.3	9	110.0	6
New capital expenditures	30.3	12	(14.8)	15	(15.9)	19
Used capital expenditures	(4.5)	34	0.2	1	(0.1)	(A)
Retirements	15.8	7	1.0	10	(0.9)	18
End of year	262.5	4	102.3	8	125.1	4
Machinery and equipment:						
Beginning of year	341.2	3	150.6	7	176.8	5
New capital expenditures	74.8	6	37.6	14	(40.1)	15
Automobiles, trucks, etc., for highway use[3]	(1.3)	(A)	(1.2)	(A)	(1.1)	(A)
Computers and peripheral data processing equipment[3]	(4.7)	(A)	(3.4)	(A)	(1.6)	(A)
All other[3]	(54.1)	37	(23.1)	87	(30.5)	66
New machinery and equipment, n.s.k.[4]	(14.6)	(A)	(9.9)	(A)	(6.8)	(A)
Used capital expenditures	(3.5)	28	(1.1)	64	(1.5)	56
Retirements	26.7	8	8.4	6	(8.6)	(A)
End of year	392.8	3	181.0	5	209.8	4
Total gross value of depreciable assets:						
Beginning of year	584.7	3	238.9	6	286.8	5
New capital expenditures	105.0	8	52.4	12	56.0	12
Used capital expenditures	(8.0)	28	(1.3)	56	(1.6)	54
Retirements	42.5	7	9.3	6	(9.5)	(A)
End of year	655.2	3	283.2	5	334.9	3
Depreciation charges during 1977	46.8	3	19.5	6	(24.8)	17
Buildings and other structures	11.0	4	4.0	7	5.7	8
Machinery and equipment	35.7	3	15.4	7	(19.1)	20

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3811, ENGINEERING AND SCIENTIFIC INSTRUMENTS												
Total	-	**786**	**42.3**	**584.4**	**24.7**	**48.7**	**280.7**	**1 287.2**	**681.4**	**1 926.7**	**57.4**	**470.1**
Establishments with an average of—												
1 to 4 employees	E8	263	0.4	5.6	0.3	0.5	2.6	12.4	7.2	20.3	0.5	5.2
5 to 9 employees	E6	98	0.7	9.2	0.4	0.8	4.4	18.1	10.2	28.0	0.8	6.6
10 to 19 employees	E5	146	2.0	26.0	1.2	2.3	12.1	56.9	31.9	87.9	2.3	20.8
20 to 49 employees	E1	142	4.3	58.3	2.7	5.0	28.1	128.3	74.7	200.2	5.6	44.6
50 to 99 employees	-	61	4.4	56.4	2.7	5.4	29.3	130.9	68.4	195.3	6.8	46.6
100 to 249 employees	-	39	6.4	79.7	3.9	7.8	41.9	175.8	100.8	267.7	11.4	75.8
250 to 499 employees	-	24	8.8	114.5	5.2	10.8	56.1	288.2	154.8	422.2	8.6	113.0
500 to 999 employees	-	8	5.8	90.2	3.0	5.9	37.8	222.9	127.9	344.6	9.1	75.5
1,000 to 2,499 employees	-	4	(9.4)	(144.4)	(5.3)	(10.2)	(68.4)	(253.6)	(105.5)	(360.6)	(12.2)	(82.1)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	366	2.1	27.9	1.3	2.4	12.8	59.4	31.4	90.7	2.4	22.4
INDUSTRY 3822, ENVIRONMENTAL CONTROLS												
Total	-	**201**	**39.0**	**450.3**	**30.6**	**57.9**	**315.6**	**859.6**	**529.4**	**1 358.7**	**47.7**	**285.9**
Establishments with an average of—												
1 to 4 employees	E8	64	0.1	1.2	0.1	0.2	0.8	2.7	1.5	4.2	0.1	0.8
5 to 9 employees	E5	25	0.2	1.8	0.1	0.2	1.1	4.1	2.4	6.6	0.1	1.3
10 to 19 employees	E6	21	0.3	3.4	0.2	0.4	2.3	6.8	4.2	11.0	0.2	2.4
20 to 49 employees	-	36	1.1	12.8	0.8	1.5	7.3	28.0	15.7	42.8	1.1	8.0
50 to 99 employees	-	14	1.0	9.5	0.7	1.4	5.7	24.5	13.4	37.0	0.4	6.6
100 to 249 employees	E1	8	1.5	15.8	1.0	1.9	7.2	24.9	13.3	36.9	0.7	11.7
250 to 499 employees	-	10	3.7	30.2	3.1	6.1	22.3	76.9	43.4	120.2	3.1	24.4
500 to 999 employees	-	13	9.6	96.9	7.3	13.3	68.7	230.7	97.2	321.2	6.7	60.8
1,000 to 2,499 employees	-	8	(21.6)	(278.8)	(17.3)	(33.1)	(200.2)	(461.0)	(338.3)	(779.0)	(35.3)	(169.7)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	78	0.4	4.2	0.3	0.6	2.7	9.3	4.9	14.2	0.3	3.1
INDUSTRY 3823, PROCESS CONTROL INSTRUMENTS												
Total	-	**426**	**46.5**	**664.8**	**23.4**	**47.0**	**265.9**	**1 399.4**	**657.1**	**2 022.0**	**52.1**	**555.9**
Establishments with an average of—												
1 to 4 employees	E7	108	0.2	2.2	0.1	0.2	0.9	4.3	2.5	7.7	0.2	2.2
5 to 9 employees	E6	43	0.3	3.8	0.1	0.3	1.5	9.0	4.1	13.2	0.3	3.6
10 to 19 employees	E3	68	0.9	13.0	0.5	1.0	5.5	33.0	22.3	54.6	1.1	11.6
20 to 49 employees	-	69	2.2	29.6	1.2	2.4	12.8	67.7	35.3	102.1	2.2	19.8
50 to 99 employees	-	60	4.5	58.8	2.5	5.0	24.8	145.5	78.2	219.8	5.2	42.6
100 to 249 employees	-	41	6.4	80.0	3.6	7.0	37.3	210.0	101.4	302.4	5.7	77.7
250 to 499 employees	-	22	7.8	108.3	4.1	8.0	47.8	232.3	124.1	356.8	11.3	98.3
500 to 999 employees	-	7	4.9	67.2	2.7	5.3	30.5	153.2	58.2	202.9	4.4	51.6
1,000 to 2,499 employees	-	5	8.9	131.1	4.4	9.2	53.3	257.0	94.5	349.8	9.8	118.2
2,500 employees or more	-	3	10.4	170.8	4.1	8.5	51.6	287.4	136.4	412.8	11.9	130.4
Covered by administrative records[2]	E0	142	0.9	11.8	0.5	0.9	4.5	25.5	11.4	36.9	1.0	10.9
INDUSTRY 3824, FLUID METERS AND COUNTING DEVICES												
Total	-	**111**	**15.9**	**197.6**	**11.2**	**22.5**	**118.0**	**429.0**	**231.3**	**650.4**	**19.9**	**148.8**
Establishments with an average of—												
1 to 4 employees	E9	23	(Z)	0.4	(Z)	(Z)	0.2	(Z)	0.4	1.2	(Z)	0.3
5 to 9 employees	E6	9	0.1	0.7	(Z)	0.1	0.4	1.3	0.8	2.1	(Z)	0.5
10 to 19 employees	E6	17	0.2	2.7	0.2	0.3	1.6	6.5	3.5	10.0	0.3	2.2
20 to 49 employees	E2	21	0.7	8.6	0.5	1.0	5.0	22.4	13.7	35.8	1.3	5.6
50 to 99 employees	-	6	0.4	4.7	0.3	0.5	2.7	7.0	4.9	11.3	0.4	3.3
100 to 249 employees	-	18	2.5	27.9	1.6	3.2	14.4	60.6	36.8	94.4	2.5	25.4
250 to 499 employees	-	9	3.7	38.2	2.6	5.5	24.6	97.8	60.1	157.1	3.7	37.1
500 to 999 employees	-	6	(8.3)	(114.3)	(5.9)	(11.9)	(69.0)	(233.4)	(111.1)	(338.5)	(11.7)	(74.4)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	39	0.3	3.5	0.2	0.4	2.0	7.7	4.4	12.1	0.3	2.8
INDUSTRY 3825, INSTRUMENTS TO MEASURE ELECTRICITY												
Total	-	**671**	**66.5**	**889.1**	**40.4**	**78.3**	**414.5**	**1 807.7**	**1 026.8**	**2 761.0**	**99.1**	**668.9**
Establishments with an average of—												
1 to 4 employees	E8	206	0.3	3.7	0.2	0.3	1.8	6.9	3.7	11.8	0.4	2.9
5 to 9 employees	E7	96	0.7	8.2	0.4	0.8	4.0	16.1	8.0	24.1	0.8	5.7
10 to 19 employees	E6	90	1.3	16.0	0.8	1.5	7.7	31.6	19.1	50.5	1.1	11.2
20 to 49 employees	E1	93	2.9	34.1	1.8	3.4	15.5	73.1	39.1	110.8	2.7	25.4
50 to 99 employees	-	66	4.6	56.7	2.8	5.3	24.9	123.5	68.7	190.0	4.7	45.0
100 to 249 employees	-	64	10.4	122.9	6.4	12.8	60.5	278.6	144.5	412.0	13.7	107.0
250 to 499 employees	-	26	8.5	100.9	5.4	10.1	49.3	225.8	131.4	347.7	9.8	89.8
500 to 999 employees	-	18	12.2	172.5	6.8	13.0	80.6	379.9	211.6	585.0	20.2	136.6
1,000 to 2,499 employees	-	11	(25.7)	(374.0)	(15.9)	(31.1)	(170.4)	(672.2)	(400.7)	(1 029.2)	(45.7)	(245.2)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	313	1.8	22.3	1.1	2.1	10.6	43.4	23.0	66.4	2.0	15.8

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3829, MEASURING AND CONTROLLING DEVICES, N.E.C.												
Total	-	**670**	**32.3**	**484.0**	**15.8**	**31.8**	**174.5**	**746.6**	**405.8**	**1 118.1**	**49.3**	**320.0**
Establishments with an average of—												
1 to 4 employees	E7	307	0.5	6.8	0.4	0.6	3.1	15.1	8.5	24.4	0.5	5.8
5 to 9 employees	E4	78	0.5	6.8	0.3	0.6	3.1	13.1	8.3	21.3	0.5	4.5
10 to 19 employees	E1	75	1.0	13.5	0.6	1.1	6.2	30.3	16.7	46.5	1.7	8.7
20 to 49 employees	-	101	3.2	39.5	2.1	4.1	20.6	83.9	48.0	130.3	3.9	26.8
50 to 99 employees	-	55	3.8	46.7	2.5	4.9	24.3	97.1	54.0	147.5	4.9	30.6
100 to 249 employees	-	33	4.8	62.1	2.8	5.3	29.0	138.7	71.6	204.9	6.9	54.8
250 to 499 employees	-	10	3.2	40.6	1.6	3.3	16.6	87.4	40.8	122.6	(30.9)	38.9
500 to 999 employees	-	6	3.9	49.8	2.2	4.3	21.8	100.5	52.7	147.1	(D)	40.2
1,000 to 2,499 employees	-	4	(11.3)	(198.2)	(3.4)	(7.7)	(49.7)	(180.5)	(105.4)	(273.7)	(D)	(109.7)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	271	0.6	8.6	0.4	0.8	3.9	19.0	10.1	29.1	0.5	7.3
INDUSTRY 3832, OPTICAL INSTRUMENTS AND LENSES												
Total	-	**546**	**30.2**	**423.5**	**17.1**	**34.0**	**189.7**	**901.8**	**456.1**	**1 335.6**	**51.2**	**303.3**
Establishments with an average of—												
1 to 4 employees	E8	199	0.3	4.4	0.2	0.4	2.0	9.6	4.6	14.4	0.4	3.4
5 to 9 employees	E5	80	0.5	7.1	0.3	0.6	3.4	14.4	8.0	22.0	0.7	5.3
10 to 19 employees	E1	67	0.9	10.7	0.5	1.0	5.3	20.1	10.2	30.1	0.8	5.8
20 to 49 employees	-	94	3.0	36.8	1.9	3.6	19.5	74.9	38.9	113.1	3.9	22.9
50 to 99 employees	-	40	2.8	35.9	1.6	3.2	16.6	76.7	46.7	122.7	3.2	28.8
100 to 249 employees	-	30	4.3	57.0	2.6	5.3	28.4	121.4	68.2	187.2	6.0	44.3
250 to 499 employees	-	23	7.8	104.0	4.5	9.2	51.1	221.1	116.6	328.5	17.3	90.1
500 to 999 employees	-	9	6.1	95.9	3.2	6.3	35.2	193.6	90.6	278.4	11.5	51.1
1,000 to 2,499 employees	-	4	4.6	71.7	2.3	4.5	28.2	170.0	72.4	239.2	7.5	51.6
Covered by administrative records[2]	E0	213	0.6	7.7	0.4	0.6	3.4	16.2	7.7	23.9	0.6	5.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3811	**Engineering and scientific instruments:**										
	Entire industry	786	42.3	584.4	24.7	48.7	280.7	1 287.2	681.4	1 926.7	57.4
	Establishments with 75 percent specialization or more	714	27.5	383.3	16.1	31.9	182.3	854.2	473.5	1 291.7	37.4
38111	Aeronautical, nautical, and navigational instruments:										
	Establishments with this product class primary	77	17.9	258.2	10.3	20.4	126.3	486.7	216.1	588.3	23.5
	Establishments with 75 percent specialization or more in class	54	9.4	130.3	5.3	10.7	65.1	246.6	119.0	353.7	11.0
38112	Laboratory and scientific apparatus:										
	Establishments with this product class primary	182	14.6	207.6	8.2	16.3	93.0	539.2	302.6	816.3	23.2
	Establishments with 75 percent specialization or more in class	156	11.2	165.9	6.4	12.6	73.7	420.6	239.0	637.9	(D)
38113	Surveying and drafting instruments:										
	Establishments with this product class primary	40	5.1	59.0	3.4	6.4	33.3	134.7	91.9	224.4	5.5
	Establishments with 75 percent specialization or more in class	30	2.5	28.4	1.7	3.3	15.8	63.5	49.2	111.4	2.6
3822	**Environmental controls:**										
	Entire industry	201	39.0	450.3	30.6	57.9	315.6	859.6	529.4	1 358.7	47.7
	Establishments with 75 percent specialization or more	179	28.5	326.0	21.9	41.2	221.4	631.2	358.7	961.4	(D)
3823	**Process control instruments:**										
	Entire industry	426	46.5	664.8	23.4	47.0	265.9	1 399.4	657.1	2 022.0	52.1
	Establishments with 75 percent specialization or more	373	38.3	560.6	19.0	38.4	219.5	1 181.0	545.6	1 695.8	45.3
3824	**Fluid meters and counting devices:**										
	Entire industry	111	15.9	197.6	11.2	22.5	118.0	429.0	231.3	650.4	19.9
	Establishments with 75 percent specialization or more	97	9.1	108.4	6.3	12.6	63.3	266.4	145.6	407.3	13.3
38242	Nonelectrical totalizing fluid and gas meters:										
	Establishments with this product class primary	29	7.1	89.3	5.0	9.9	54.0	236.4	130.5	363.3	10.9
	Establishments with 75 percent specialization or more in class	26	5.7	59.8	4.1	8.1	43.3	192.7	106.6	296.1	(D)
38243	Counting devices:										
	Establishments with this product class primary	20	4.5	60.6	3.0	6.0	32.5	115.1	54.4	164.5	5.6
	Establishments with 75 percent specialization or more in class	14	2.0	21.9	1.3	2.9	12.8	49.4	22.8	71.1	(D)
38244	Motor vehicle instruments, except electric:										
	Establishments with this product class primary	9	3.7	41.4	2.8	5.8	27.9	65.5	39.2	102.6	(D)
	Establishments with 75 percent specialization or more in class	5	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3825	**Instruments to measure electricity:**										
	Entire industry	671	66.5	889.1	40.4	78.3	414.5	1 807.7	1 026.8	2 761.0	99.1
	Establishments with 75 percent specialization or more	620	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38251	Electrical integrating instruments:										
	Establishments with this product class primary	16	7.0	84.2	5.3	10.1	54.1	198.4	67.6	260.8	5.9
	Establishments with 75 percent specialization or more in class	12	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38252	Test equipment for testing electrical circuits:										
	Establishments with this product class primary	163	42.7	600.4	24.4	47.3	259.3	1 200.1	753.8	1 892.4	76.2
	Establishments with 75 percent specialization or more in class	130	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38253	Other instruments to measure electricity:										
	Establishments with this product class primary	92	13.4	164.5	8.7	16.9	81.9	331.4	163.5	486.3	13.5
	Establishments with 75 percent specialization or more in class	68	8.6	109.9	5.9	11.4	57.4	224.4	101.0	319.1	8.2
3829	**Measuring and controlling devices, n.e.c.:**										
	Entire industry	670	32.3	464.0	15.8	31.8	174.5	746.6	405.8	1 118.1	49.3
	Establishments with 75 percent specialization or more	628	26.4	388.3	12.0	23.9	129.1	596.2	333.3	902.1	44.8
38291	Aircraft engine instruments, except flight:										
	Establishments with this product class primary	16	2.8	38.7	1.7	3.3	16.5	71.9	28.2	97.2	2.2
	Establishments with 75 percent specialization or more in class	12	2.7	37.3	1.6	3.2	15.9	69.2	27.0	93.4	2.1
38292	Physical properties testing and inspection equipment:										
	Establishments with this product class primary	91	5.8	82.6	3.2	6.2	37.3	180.4	99.0	271.3	9.1
	Establishments with 75 percent specialization or more in class	78	4.8	67.2	2.5	4.9	28.1	149.7	80.3	223.2	(D)
38293	General purpose instruments:										
	Establishments with this product class primary	89	6.4	73.3	4.5	8.9	43.9	157.7	77.8	229.8	6.8
	Establishments with 75 percent specialization or more in class	75	3.6	37.5	2.7	5.1	22.8	84.6	44.6	125.5	(D)
38294	Nuclear radiation detection and monitoring instruments:										
	Establishments with this product class primary	52	14.7	237.7	4.9	10.4	62.2	270.1	163.7	416.2	28.4
	Establishments with 75 percent specialization or more in class	43	12.7	214.2	3.6	7.7	47.7	223.6	142.4	352.6	(D)
3832	**Optical instruments and lenses:**										
	Entire industry	546	30.2	423.5	17.1	34.0	189.7	901.8	456.1	1 335.6	51.2
	Establishments with 75 percent specialization or more	498	20.3	279.3	12.0	23.6	129.0	638.0	304.7	920.4	31.4
38324	Sighting, tracking and fire control equipment:										
	Establishments with this product class primary	39	7.2	100.9	4.3	8.8	47.6	176.9	102.7	274.9	13.2
	Establishments with 75 percent specialization or more in class	23	2.4	28.4	1.7	3.4	16.8	51.1	32.4	81.7	2.9
38325	Optical instruments and lenses, except ophthalmic:										
	Establishments with this product class primary	116	8.9	127.5	5.2	10.4	61.0	247.4	116.6	351.6	9.1
	Establishments with 75 percent specialization or more in class	103	7.7	110.2	4.7	9.4	54.0	214.6	104.2	307.4	8.3
38326	Analytical and scientific instruments:										
	Establishments with this product class primary	89	11.8	165.5	6.1	12.1	67.2	416.8	206.9	619.5	25.8
	Establishments with 75 percent specialization or more in class	66	7.4	104.3	4.0	7.7	41.6	300.2	132.4	424.7	16.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3811	Engineering and scientific instruments.....1977..	1,926.7	1,467.0	268.2	191.5	85	1,849.5	1,467.0	382.5	79
	1972..	1,023.4	799.7	110.3	113.4	88	1,106.0	799.7	306.3	72
	1967..	1,000.8	781.1	103.9	115.8	88	1,049.0	781.1	267.9	74
3822	Environmental controls.....1977..	1,358.7	1,017.7	261.6	79.4	80	1,106.4	1,017.7	88.7	92
	1972..	728.1	591.4	98.9	37.8	86	658.1	591.4	66.7	90
	1967..	618.0	476.2	109.9	31.9	81	523.6	476.2	47.4	91
3823	Process control instruments.....1977..	2,022.0	1,641.5	192.5	188.0	90	2,061.1	1,641.5	419.6	80
	1972..	883.6	656.9	107.2	119.5	86	794.7	656.9	137.8	83
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3824	Fluid meters and counting devices.....1977..	650.4	507.7	125.1	17.6	80	634.3	507.7	126.6	80
	1972..	296.2	259.1	27.7	9.4	90	327.4	259.1	68.3	79
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3825	Instruments to measure electricity.....1977..	2,761.0	2,276.4	254.4	230.2	90	2,566.2	2,276.4	289.8	89
	1972..	1,540.8	1,166.0	295.9	78.9	80	1,329.7	1,166.0	163.7	88
	1967..	1,184.0	919.9	180.1	84.0	84	1,165.1	919.9	245.2	79
3829	Measuring and controlling devices, n.e.c.....1977..	1,118.1	890.9	105.2	122.0	89	1,073.1	890.9	182.2	83
	1972..	601.4	450.5	102.2	48.7	86	585.9	450.5	135.4	77
	1967..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3832	Optical instruments and lenses.....1977..	1,335.6	1,069.3	201.7	64.6	84	1,299.7	1,069.3	230.4	82
	1972..	538.4	464.4	47.9	26.1	92	584.7	464.4	120.3	79
	1967..	406.9	335.8	49.3	21.8	87	451.9	335.8	116.1	74

n.e.c. Not elsewhere classified.
[1]Industries 3823, 3825, and 3829 were established as seperate industries in 1972. Data for 1967 are not available.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Engineering and scientific instruments (SIC 3811)	Environmental controls (SIC 3822)	Process control instruments (SIC 3823)	Fluid meters and counting devices (SIC 3824)	Instruments to measure electricity (SIC 3825)	Measuring and controlling devices, n.e.c. (SIC 3829)	Optical instruments and lenses (SIC 3832	Other industries
	Total	(X)	1,926.7	1,358.7	2,022.0	650.4	2,761.0	1,118.1	1,335.6	(X)
	Primary products	(X)	1,467.0	1,017.7	1,641.5	507.7	2,276.4	890.9	1,069.3	(X)
	Secondary products	(X)	268.2	261.6	192.5	125.1	254.4	105.2	201.7	(X)
	Miscellaneous receipts	(X)	191.5	79.4	188.0	17.6	230.2	122.0	64.6	(X)
3811-	Engineering and scientific instruments	1,849.5	1,467.0	.7	19.3	8.0	11.2	9.7	36.2	297.2
38111	Aeronautical, nautical, and navigational instruments	804.6	509.2	-	17.7	(D)	(D)	8.6	(D)	242.1
38112	Laboratory and scientific apparatus	696.6	632.3	.7	1.6	(D)	(D)	(D)	(D)	38.9
38113	Surveying and drafting instruments	168.9	148.2	-	-	(D)	-	(D)	(D)	14.6
38110	Engineering and scientific instruments, n.s.k.	179.4	177.4	-	-	-	-	(Z)	.3	1.6
38220	Heating, air conditioning, appliance controls	1,106.4	(D)	1,017.7	13.0	-	.4	(D	-	72.4
38230	Industrial process instruments	2,061.1	(D)	(D	1,641.5	43.0	17.4	20.6	18.5	311.4
3824-	Fluid meters and counting devices	634.3	1.3	(D)	8.0	507.7	(D)	(D	(D	106.2
38242	Nonelectrical totalizing fluid and gas meters	344.0	-	(D)	3.0	318.3	-	(D	-	22.6
38243	Counting devices	147.0	(D)	-	2.8	130.2	(D)	(D	(D	7.5
38244	Motor vehicle instruments, except electric	123.2	(D)	-	2.2	(D)	-	(D)	-	(D
38240	Fluid meters and counting devices, n.s.k.	20.1	-	-	-	(D)	-	-	-	(D
3825-	Instruments to measure electricity	2,566.2	6.9	(D)	13.0	36.7	2,276.4	4.5	(D)	208.2
38251	Electrical integrating instruments	223.5	-	-	(D)	-	213.7	-	(D	4.8
38252	Test equipment for testing electrical circuits	1,784.9	(D)	-	8.0	(D)	1,580.2	(D	(D)	166.5
38253	Other instruments to measure electricity	429.9	(D)	(D)	2.5	(D)	357.8	(D)	(D	35.1
38250	Instruments to measure electricity, n.s.k.	127.8	-	-	(D)	-	124.6	(D	-	1.8
3829-	Measuring and controlling devices, n.e.c.	1,073.1	20.5	(D)	21.2	(D)	19.7	890.9	27.6	87.1
38291	Aircraft engine instruments, except flight	120.1	5.6	(D)	(D)	(D)	(D)	81.5	(D	20.6
38292	Physical properties testing and inspection equipment	276.6	(D)	-	5.2	-	6.9	226.1	(D)	24.4
38293	General purpose instruments	226.8	3.9	(D)	9.7	(D)	(D)	183.7	.7	18.5
38294	Nuclear radiation detection and monitoring instruments	344.2	(D)	-	(D)	-	(D)	304.5	(D)	19.5
38290	Measuring and controlling devices, n.e.c., n.s.k.	105.5	.9	.9	1.4	-	.2	95.1	2.8	4.1
3832-	Optical instruments and lenses	1,299.7	41.5	-	7.6	(D)	(D	(D	1,069.3	161.5
38324	Sighting, tracking and fire control equipment	227.3	(D)	-	(D)	-	(D	(D	180.3	(D
38325	Optical instruments and lenses, except ophthalmic	390.0	(D)	-	(D)	-	(D)	(D)	327.1	47.6
38326	Analytical and scientific instruments	604.5	30.0	-	(D)	(D)	(D)	(D	484.3	80.1
38320	Optical instruments and lenses, n.s.k.	77.8	-	-	-	-	-	-	77.5	(D)
	Other shipments by 4-digit product group:									
2731-	Book publishing	(X)	(D)	-	-	-	-	-	(D	(X)
2831-	Biological products	(X)	-	-	-	-	-	-	(D	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	-	(D	-	(D	-	(X)
3231-	Products of purchased glass	(X)	(D)	-	(D)	-	-	-	-	(X)
3297-	Nonclay refractories	(X)	-	-	-	-	-	-	(D	(X)
3356-	Nonferrous rolling and drawing, n.e.c.	(X)	-	(D)	-	-	-	-	-	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	(D)	-	-	-	-	-	(X)
3423-	Hand and edge tools, n.e.c.	(X)	-	-	-	-	(D	-	-	(X)
3433-	Heating equipment, except electric	(X)	-	(D)	-	-	-	-	-	(X)
3465-	Automotive stampings	(X)	-	(D)	-	-	-	-	-	(X)
3469-	Metal stampings, n.e.c.	(X)	-	(D)	-	-	-	(D	-	(X)
3482-	Small arms ammunition	(X)	-	(D)	-	-	-	-	-	(X)
3484-	Small arms	(X)	-	-	-	-	-	-	(D	(X)
3494-	Valves and pipe fittings	(X)	(D)	13.8	(D)	(D)	(D)	(D)	-	(X)
3499-	Fabricated metal products, n.e.c.	(X)	(D)	-	(D)	(D)	(D	(D)	-	(X)
3532-	Mining machinery	(X)	-	-	-	(D	-	(D)	-	(X)
3559-	Special industry machinery, n.e.c.	(X)	(D)	-	(D)	-	-	(D)	-	(X)
3563-	Air and gas compressors	(X)	(D)	-	-	-	-	-	(D	(X)
3569-	General industrial machinery, n.e.c.	(X)	(D)	(D)	(D	-	(D)	(D)	-	(X
3573-	Electronic computing equipment	(X)	(D)	(D)	(D)	(D)	(D)	2.0	-	(X
3574-	Calculating and accounting machines	(X)	(D)	(D)	-	-	-	-	(D	(X
3586-	Measuring and dispensing pumps	(X)	-	-	(D	(D)	(D	-	-	(X
3589-	Service industry machinery, n.e.c.	(X)	-	-	(D	-	-	-	-	(X)
3599-	Machinery, except electrical, n.e.c.	(X)	(D)	5.7	(D	-	(D	(D)	(D	(X)
3612-	Transformers	(X)	-	(D)	-	-	D	-	-	(X)
3613-	Switchgear and switchboard apparatus	(X)	-	(D	(D	-	(D	-	-	(X
3621-	Motors and generators	(X)	(D)	(D)	-	(D)	(D)	(D	-	(X
3622-	Industrial controls	(X)	1.3	8.2	2.3	(D	9.4	D	(D	(X)
3643-	Current-carrying wiring devices	(X)	-	-	-	-	(D	-	(D	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Engineering and scientific instruments (SIC 3811)	Environmental controls (SIC 3822)	Process control instruments (SIC 3823)	Fluid meters and counting devices (SIC 3824)	Instruments to measure electricity (SIC 3825)	Measuring and controlling devices, n.e.c. (SIC 3829)	Optical instruments and lenses (SIC 3832)	Other industries
	Other shipments by 4-digit product group--Con.									
3644-	Noncurrent-carrying wiring devices	(X)	-	(D)	-	-	-	-	-	(X)
3661-	Telephone and telegraph apparatus	(X)	(D)	-	-	-	(D)	(D)	-	(X)
3662-	Radio and TV communication equipment	(X)	(D)	(D)	8.5	(D)	(D)	(D)	(D)	(X)
3676-	Electronic resistors	(X)	-	-	-	-	(D)	(D)	(D)	(X)
3677-	Electronic coils and transformers	(X)	(D)	-	-	-	.6	-	(D)	(X)
3678-	Electronic connectors	(X)	-	(D)	-	-	(D)	-	-	(X)
3679-	Electronic components, n.e.c	(X)	(D)	-	9.4	-	(D)	9.5	38.2	(X)
3693-	X-ray and electromedical apparatus	(X)	-	-	-	-	(D)	-	(D)	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	(D)	(D)	(D)	-	-	-	(D)	(X)
3714-	Motor vehicle parts and accessories	(X)	-	-	-	(D)	-	-	-	(X)
3724-	Aircraft engines and engine parts	(X)	-	-	-	(D)	-	-	(D)	(X)
3728-	Aircraft equipment, n.e.c	(X)	-	-	-	(D)	-	(D)	(D)	(X)
3751-	Motorcycles, bicycles, and parts	(X)	-	-	-	(D)	-	-	-	(X)
3764-	Space propulsion units and parts	(X)	-	-	-	-	-	(D)	-	(X)
3841-	Surgical and medical instruments	(X)	(D)	-	(D)	-	-	(D)	7.4	(X)
3842-	Surgical appliances and supplies	(X)	(D)	-	(D)	-	-	(D)	.2	(X)
3861-	Photographic equipment and supplies	(X)	(D)	-	-	-	-	-	(D)	(X)
3951-	Pens and mechanical pencils	(X)	-	(D)	-	-	-	-	-	(X)
3952-	Lead pencils and art goods	(X)	(D)	-	-	-	-	-	-	(X)
	Miscellaneous receipts:									
93000 00	Contract work	(X)	(D)	1.0	(D)	(D)	20.1	7.5	1.1	(X)
99980 13	Sales of scrap and refuse	(X)	(D)	3.1	(D)	1.3	1.8	.1	.2	(X)
99980 31	Receipts for installation or construction	(X)	(D)	(D)	26.4	-	(D)	(D)	(X)	(X)
99980 41	Receipts for research and development work	(X)	12.4	-	(D)	(D)	4.3	(D)	2.7	(X)
99980 61	Receipts for repair work	(X)	16.5	(D)	57.9	8.1	(D)	35.1	(X)	(X)
99980 98	Other miscellaneous receipts	(X)	21.8	(D)	30.4	(D)	22.5	27.2	19.4	(X)
99989 00	Resales	(X)	126.5	(D)	67.6	(D)	144.0	42.6	41.2	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3811-	2834 Pharmaceutical preparations	(D)
	3621 Motors and generators	(D)
	3662 Radio and TV communication equipment	(D)
	3721 Aircraft	(D)
	3728 Aircraft equipment, n.e.c	(D)
	3841 Surgical and medical instruments	9.1
	3861 Photographic equipment and supplies	(D)
	3873 Watches, clocks, and watchcases	(D)
3822-	3494 Valves and pipe fittings	15.5
	3622 Industrial controls	(D)
	3999 Manufacturing industries, n.e.c	(D)
3823-	3357 Nonferrous wire drawing and insulating	(D)
	3433 Heating equipment, except electric	(D)
	3443 Fabricated plate work (boiler shops)	(D)
	3494 Valves and pipe fittings	77.3
	3551 Food products machinery	(D)
	3559 Special industry machinery, n.e.c	(D)
	3622 Industrial controls	(D)
	3662 Radio and TV communication equipment	8.7
	3679 Electronic components, n.e.c	14.0
	3842 Surgical appliances and supplies	(D)

1977 product code	Industries and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3824-	2819 Industrial inorganic chemicals, n.e.c	(D)
	3586 Measuring and dispensing pumps	(D)
	3714 Motor vehicle parts and accessories	(D)
3825-	3613 Switchgear and switchboard apparatus	14.4
	3622 Industrial controls	(D)
	3661 Telephone and telegraph apparatus	(D)
	3662 Radio and TV communication equipment	95.4
	3679 Electronic components, n.e.c	9.8
	3714 Motor vehicle parts and accessories	(D)
	3728 Aircraft equipment, n.e.c	(D)
3829-	3662 Radio and TV communication equipment	19.2
	3841 Surgical and medical instruments	(D)
	3842 Surgical appliances and supplies	(D)
3832-	2731 Book publishing	(D)
	3662 Radio and TV communication equipment	24.6
	3671 Electron tubes, receiving type	(D)
	3851 Ophthalmic goods	(D)
	3861 Photographic equipment and supplies	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
				Product shipments[1]		Product shipments	
			Number of companies	Quantity	Value (million dollars)	Quantity	Value (million dollars)
	ENGINEERING AND SCIENTIFIC INSTRUMENTS						
3811- --	Total	.....	(NA)	(X)	1,849.5	(X)	1,106.0
38111 --	Aeronautical, nautical, and navigational instruments, except aircraft engine instruments, excluding systems:						
	As reported in census of manufactures	.....	125	(X)	[2]804.6	(X)	573.7
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	[2]755.3	(X)	555.9
	Flight and navigation sensors, transmitters, and displays:						
38111 01	Compasses (magnetic and gyroscopic)	.....	17	(X)	48.3	(X)	18.1
38111 03	Radio navigation receivers and displays, including omni, radio magnetic, glide slope/localizer, DME, etc.	.....	9	X)	48.1	(X)	13.3
38111 08	Altimeters, except radio and radar altimeters	.....	11	(X)	20.1	(X)	24.2
38111 10	Air speed indicators, including machmeters and air data computers	.....	18	(X)	61.1	(X)	23.8
38111 12	Acceleration indicators	Thousands	6	2.3	2.7	12.0	9.3
38111 13	Rate-of-climb indicators		6	[3]15.7	4.4		
38111 15	Angle-of-attack indicators		7	[3]25.8	[3]8.4	(X)	3.1
38111 17	Bank and turn indicators		4				
38111 22	Artificial horizon flight instruments	Thousands	10	[3]11.9	34.7	7.8	10.1
38111 20	Other aerospace and navigational instruments	.....	22	(X)	60.6	(X)	15.1
	Gyroscopes sold separately:						
38111 21	Vertical	Thousands	5	[4]8.0	[3]16.0	7.6	8.0
38111 23	Directional	Thousands	11	[5]82.4	29.0	16.9	7.9
38111 25	Free, torqued and untorqued	.....	7	(X)	57.3	(X)	25.1
38111 26	Rate, inertial grade	.....	2				
38111 28	Rate, noninertial grade	.....	8	(X)	38.3	(X)	11.1
	Airframe equipment instruments:						
38111 61	Position indicators (mechanical, as for landing gear, cowl flaps, stabilizers, etc.)	.....	6	(X)	[3]2.8	(X)	2.5
38111 63	Hydraulic system instruments (both electrical and mechanical measuring means, as for liquid level and temperature and pressure indicators)	.....	5	(X)	[4]9.3	(X)	6.5
38111 64	Cabin environmental measuring and control instruments (air-conditioning and heating, cabin pressure, oxygen, etc.)	.....	15	(X)	19.0	(X)	21.7
38111 77	Thermocouple and thermocouple lead wire (aircraft type only)	.....	28	(X)	168.3	(X)	345.8
38111 80	Other aerospace flight instruments	.....					
38111 85	Nautical instruments, all types	Thousands	16	(S)	[3]25.1	(S)	10.3
38111 00	Aeronautical, nautical, and navigational instruments, n.s.k.	.....	9	(X)	101.8	-	-
38112 --	Laboratory and scientific apparatus:						
	As reported in census of manufactures	.....	262	(X)	696.6	(X)	335.9
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	611.8	(X)	145.9
38112 21	Laboratory balances and scales	.....	19	(X)	27.8	(X)	22.0
38112 23	Laboratory furnaces and ovens	.....	22	(X)	14.7	(X)	7.0
38112 25	Laboratory centrifuges	.....	15	(X)	88.8	(X)	37.6
38112 27	Laboratory evaporation and distillation apparatus	.....	12	(X)	21.1	(X)	8.8
38112 28	Laboratory sterilizers and autoclaves	.....	8				
38112 29	Laboratory burners and hot plates	.....	11	(X)	2.0		
38112 31	Laboratory granulators and mills	.....	6	(X)	1.6		
39112 33	Laboratory dryers	.....	6			(X)	70.4
38112 35	Laboratory blenders, mixers, shakers, stirrers, and dispensers	.....	29	(X)	24.7		
38112 37	All other laboratory apparatus	.....	84	(X)	350.9		
38112 00	Laboratory and scientific apparatus, n.s.k.	.....	10	(X)	80.2	-	-
38113 --	Surveying and drafting instruments and associated equipment and laboratory furniture:						
	As reported in census of manufactures	.....	52	(X)	168.9	(X)	126.2
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	164.3	(X)	(X)
38113 33	Surveying instruments, including alidades, transits, plumb bobs, sextants, theodolites, surveyers' compasses, surveyers' levels, and tapes	.....	14	(X)	28.7		
38113 35	Drafting instruments and machines (manual and automatic), plotting instruments, slide rules, t-squares, drafting templates, and rules	.....	11	(X)	18.6	(X)	126.2
38113 37	Photogrammetric and geodetric equipment, excluding cameras	.....	5	(X)	3.9		
38113 38	Laboratory furniture, including cabinets, cases, benches, tables, stools, and reagent shelves	.....	15				
38113 39	All other surveying and drafting instruments and associated equipment and laboratory furniture	.....	9	(X)	113.0		
38110 00	Engineering and scientific instruments, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	88.7	(X)	50.7
38110 02	Engineering and scientific instruments, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	90.7	(X)	19.5

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments[1] Quantity	1977 Product shipments[1] Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
	ENVIRONMENTAL CONTROLS						
3822- --	Total		(NA)	(X)	1,106.4	(X)	658.1
	Controls for monitoring residential and commerical environments, and appliance regulating controls:						
	As reported in the census of manufactures		145	(X)	1,092.2	(X)	653.2
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products		(NA)	(X)	1,125.3	(X)	645.6
	Automatic temperature controls of the type principally used as components of air conditioning, refrigeration, and comfort heating, including pneumatic controls:						
38220 20	Temperature responsive (thermostats)	Thousands	46	[3]108,138.7	490.3	(S)	287.6
38220 25	Pressure responsive (pressurestats)		14				
38220 30	Hydronic responsive		3	[4]7,253.2	104.8	(S)	55.5
38220 35	Humidity responsive (humidistats)		4				
38220 40	Light responsive		-	-	-		
38220 45	Electrostatic responsive		-	-	-		
38220 50	Liquid level		12			(S)	10.8
38220 55	Defrost controls, except appliance regulators		1	(6)	(6)		
38220 60	Igniters		4	1,765.4	15.0		
38220 65	Inherent motor protectors		4	[3] [6]62,615.8	[6]52.8		
38220 70	Other		14	122,267.5	141.6	(S)	92.1
	Controls for major appliances such as domestic laundry and cooking appliances, refrigerators and freezers, vending machines, and air conditioners:						
38220 75	Temperature responsive		21	95,891.3	159.3	(S)	156.1
38220 80	All other controls for appliances	Thousands	7	23,883.1	73.1	(S)	43.6
38220 00	Controls for monitoring residential and commercial environments and appliances regulating controls, n.s.k.		8	(X)	88.3	(X)	-
38220 02	Controls for monitoring residential and commercial environments, and appliance regulating controls, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	14.2	(X)	4.9
	PROCESS CONTROL INSTRUMENTS						
3823- --	Total		(NA)	(X)	2,061.1	(X)	794.7
38230 --	Industrial instruments for measurement, display, and control of process variables:						
	As reported in census of manufactures		370	(X)	2,024.2	(X)	794.7
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products		(NA)	(NA)	1,906.1	(X)	729.5
	Electrical and electronic types (a.c. or d.c. milliampere or millivolt or telemetering signals):						
38230 35	Controllers (recording, indicating, or blind)	Thousands	26	384.4	47.5	21.4	16.1
38230 36	Recorders, with or without self-contained set-point stations		19	37.7	31.1	28.6	12.5
38230 37	Indicators, with or without self-contained set-point stations		25	[4]37.9	11.1	15.0	5.5
38230 38	Auxiliary stations and analog computing devices associated with the above, including manual loaders, auto-to-manual stations, ratio stations, adders, multipliers, integrators, etc		16	[4]37.7	14.3	30.2	9.5
	Pneumatic types (3 to 15 and 3 to 27 p.s.i. standardized signals):						
38230 39	Controllers (recording, indicating, or blind)		12	44.8	21.4	24.3	11.0
38230 40	Recorders, with or without self-contained set-point stations		9	17.0	10.0	14.8	8.2
38230 41	Indicators, with or without self-contained set-point stations		5	7.5	2.1	6.3	2.8
38230 42	Auxiliary stations and analog computing devices associated with the above, including manual loaders, auto-to-manual stations, ratio stations, adders, multipliers, integrators, etc		10	[4]30.8	9.5	14.9	6.6
38230 43	Receiver-type gauges, analog, and digital		16	267.6	9.9	(S)	5.8
38230 44	Annunciators (industrial), electromechanical, and solid-state types		8	4.4	16.3		
	Temperature instruments, excluding receiver-type instruments:						
	Electrical and electronic measuring types (thermocouple, resistance temperature detector, radiation, optical, thermistor, and other electrical sensors):						
38230 45	Direct-deflecting types (controllers for all types of electrical temperature sensors)		6	57.9	10.2	(S)	5.7
38230 46	Direct-deflecting types (indicators and recorders for all types of electrical temperature sensors)	Thousands	9	34.0	11.4	9.0	1.5

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3823- --	PROCESS CONTROL INSTRUMENTS--Con.						
38230 --	Industrial instruments for measurement, display, and control of process variables--Con. As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products--Con. Temperature instruments, excluding receiver-type instruments--Con. Electrical and electronic measuring types (thermocouple, resistance temperature detector, radiation, optical, thermistor, and other electrical sensors)--Con.						
38230 47	Electromechanical self-balancing types (electric or pneumatic controllers for all types of electrical temperature sensors)	Thousands	9	[3]31.8	[4]14.9	(S)	14.3
38230 48	Electromechanical self-balancing types (indicators, recorders, and integrators for all types of electrical temperature sensors)		30	17.5	27.0	10.0	9.8
38230 49	Electronic controllers for all types of electrical temperature sensors		17	151.3	21.7	(S)	10.1
38230 50	Digital types for all types of electrical temperature sensors, excluding data loggers		23	[3]31.1	18.5	2.3	2.3
38230 51	Transmitters, producing standardized electric or pneumatic analog transmission signals for all types of electrical temperature sensors		14	[4]26.5	8.8	7.8	2.9
	Mechanical measuring types: Filled system (liquid filled, vapor pressure, gas filled, and mercury filled types):						
38230 52	Indicating or recording controllers		13	196.8	27.7	119.6	13.9
38230 53	Recorders, noncontrol		22	44.7	5.8	10.7	2.9
38230 56	Indicators only, excluding indoor-outdoor and other household or appliance type thermometers		24	[3]807.2	18.1	(X)	20.8
38230 57	Transmitters producing standardized electric or pneumatic analog transmission signals		10	9.1	4.6	(X)	2.7
	Primary temperature sensor, excluding aircraft types:						
38230 59	Thermocouples and thermocouple lead wire		41	(X)	72.3	(X)	21.0
38230 60	All other types (resistance temperature detectors, radiation and optical sensors, thermistors, etc.)		27	(X)	24.4	(X)	14.6
	Pressure (gauge, absolute, vacuum) and draft instruments connected to the process, excluding receiver-type instruments and receiver-type gauge:						
38230 61	Indicating or recording controllers		24	2,267.7	33.8	51.7	9.7
38230 62	Recorders, noncontrol		15	[3]13.8	2.7	6.5	1.5
	Indicators only, excluding receiver-type gauges:						
38230 20	3-inch diameter and over		17	12,966.0	71.2	14,413.4	59.4
38230 21	Under 3-inch diameter		3				
	Transmitters producing standardized analog transmission signals:						
38230 24	Electronic analog transmission signals		17	[3]35.3	26.2	28.8	10.5
38230 25	Pneumatic analog transmission signals		9	19.7	8.5		
	Flow and liquid level instruments connected to the process:						
	Differential pressure types:						
38230 65	Indicating or recording controllers		13	106.8	10.1	8.9	5.0
38230 66	Recorders (noncontrol), and indicators (noncontrol)		17	[3]114.0	27.8	36.4	11.4
	Transmitters producing standardized analog transmission signals:						
38230 27	Electronic analog transmission signals		17	[3]84.6	65.7	55.8	23.0
38230 28	Pneumatic analog transmission signals		9				
38230 29	Primary pressure sensors (load cells, strain gauges, etc.)		3	[4]90.1	[4]18.9	([4])	([4])
38230 68	Primary flow elements, including orifice plates, venturi tubes, flow nozzles, pitot tubes, etc		14			(S)	7.3
	Electromagnetic, capacitance, ultrasonic, and other electronic types: Electromagnetic:						
38230 01	Controlling, recording, indicating, and transmitting instruments		13	42.3	22.9	29.4	19.6
38230 03	Primary flow elements		6	17.3	21.1		
38230 04	Capacitance, ultrasonic, and other electronic types, including magnetic resonance, vortex-precession, and vortex-shedding type elements		6	5.0	3.6		
38230 71	Variable area-controlling (recording, indicating and transmitting instruments, and associated primary flow elements)		12	[4]279.9	36.1	164.3	21.1
38230 72	Float and displacement (controlling, recording, indicating and transmitting instruments, and associated primary flow elements)	Thousands	20	[3]246.1	34.6	210.2	14.3

See footnotes at end of table.

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1977 product code	Product	Unit of measure	1977 Number of companies	1977 Product shipments[1] Quantity	1977 Product shipments[1] Value (million dollars)	1972 Product shipments Quantity	1972 Product shipments Value (million dollars)
38230 --	PROCESS CONTROL INSTRUMENTS--Con.						
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products--Con.						
	Temperature instruments, excluding receiver-type instruments--Con.						
	Flow and liquid level instruments connected to the process--Con.						
38230 73	Turbine, mass-flow and other types (controlling, recording, indicating and transmitting instruments, and associated primary flow elements)	Thousands	17	[4]26.8	19.1	14.4	6.2
38230 74	Humidity instruments (controlling, recording, indicating and transmitting, and associated primary humidity elements, excluding home and general purpose type)		11	45.3	6.7	3.5	1.9
	Continuous process instruments for on-stream gas and liquid analysis, including indicators, recorders, controllers, and analysis electrodes and cells, but excluding laboratory analysis types:						
38230 75	Chromatographic analyzers		12	(S)	19.8	7.4	8.5
38230 76	Infrared analyzers		10	[3]4.8	20.5	1.7	17.6
38230 77	Oxygen analyzers		15	[3]8.1	19.1		
38230 78	Other gas analyzers		22	[3]9.1	21.8	4.6	13.2
38230 79	PH analyzers		7	[3]7.6	8.6	(S)	12.2
38230 80	Other liquid analyzers		17	[4]7.2	11.3		
	Instruments for all process variables not listed above (speed, weight, position, sequence, density, specific gravity, mechanical load, electrical load, millivolts):						
	Electrical and electronic measuring types:						
38230 06	Direct-deflecting type controllers, indicators, and recorders		3	20.7	13.3	(S)	4.4
38230 08	Electromechanical self-balancing electric or pneumatic controllers, indicators, recorders, and integrators		5				
38230 85	Digital indicators		2	[3]5.8	5.2	6.7	1.3
38230 86	Transmitters producing standardized electric or pneumatic analog transmission signals	Thousands	4				
	Mechanical measuring types:						
38230 87	Indicating or recording controllers	Thousands	5	[3 1]1.0	2.9	(S)	6.9
38230 88	Recorders, noncontrol		6	2.5	2.7		
38230 89	Indicators only		7	[5]41.0	5.7	30.6	10.8
38230 90	Transmitters, producing standardized electric or pneumatic analog transmission signals	Thousands	8	5.3	3.9		
38230 91	Parts, supplies, accessories, other primary sensors, n.e.c., panelboards and other equipment associated with process control instrumentation, n.e.c.		36	(X)	260.1	(X)	99.8
	All other industrial process instruments:						
	Split architecture instrument systems:						
38230 09	Rack mounted	Thousands	10	[4]482.5	42.5	(S)	[7]163.7
38230 10	Operator interface		7	28.9	18.6		
38230 12	Industrial process computers		9	.4	36.6		
38230 14	Industrial process data acquisition		2				
38230 15	Valve actuators and positioners, sold separately	Thousands	13	[3]97.2	33.7		
38230 16	Other electronic type industrial process instruments		54	(X)	228.4		
38230 18	Other types of industrial process instruments		43	(X)	114.2		
38230 00	Process control instruments, n.s.k.		7	(X)	189.7	(X)	-
38230 02	Process control instruments, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	36.9	(X)	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)	Product shipments Quantity	Product shipments Value (million dollars)
	FLUID METERS AND COUNTING DEVICES						
3824- --	Total	.....	(NA)	(X)	634.3	(X)	327.4
38242 --	Fluid and gas meters (nonelectrical integrating instruments):						
	As reported in census of manufactures	.....	42	(X)	344.0	(X)	207.7
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	334.3	(X)	211.6
	Gas meters, consumption registering:						
	Diaphragm type, positive displacements, aluminum, iron, and tin case:						
38242 22	Residential size (up to 400 cu.ft./hr. of 0.64 specific gravity gas, at 0.5 inches water drop)	Thousands	5	1,437.8	51.1	(S)	62.2
38242 24	Other sizes, including commercial and industrial		4	[3]41.2	11.0		
38242 26	Rotary type, all sizes		6	9.6	10.7	(S)	11.7
38242 28	Turbine type, all sizes		4	3.7	5.2		
	Liquid meters, positive displacement with registers and counters:						
	Water meters, consumption registering:						
38242 33	Small meters, up to and including 1 inch		8	2,640.5	85.7	1,465.2	74.4
38242 35	Intermediate meters, over 1 inch, up to and including 2 inch		9	70.3	13.7		
38242 37	Large meters, over 2 inches		9	99.2	23.7		
38242 41	Gasoline dispensing meters, excluding service station dispensing pumps		5	279.9	40.3	240.4	21.7
38242 98	Other liquid meters; industrial bulk plants, pipeline, batching, and treatment facilities	Thousands	13	[3]178.7	41.1	130.2	20.3
38242 99	Parts for fluid meters	.....	16	(X)	51.8	(X)	21.3
38243 --	Counting devices:						
	As reported in census of manufactures	.....	46	(X)	147.0	(X)	48.8
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	Thousands	(NA)	[3]5,135.0	141.3	(X)	48.0
	Revolution counters, digital, including totalizing, predetermining, reset and production types, tally counters, lineal counters, measuring wheels, and vehicle operation registers:						
38243 61	Mechanical input	Thousands	16	3,213.1	38.1	(X)	22.1
38243 64	Electrical input		32	[4]1,665.7	18.9	(X)	10.2
38243 67	Electronic input		22	[4]136.7	60.8		
38243 70	Pneumatic input		4				
38243 73	Other counters, including centrifugal tachometers and event recorders		6	[4]119.5	23.6	(X)	15.7
38243 76	Taximeters		5				
38243 79	All other counting devices, n.e.c	Thousands	4				
38244 --	Motor vehicle instruments, except electric	.....	(NA)	(X)	123.2	(X)	70.1
38244 11	Speedometers for motor vehicles	.....	7				
38244 98	Other motor vehicle indicating instruments, except electric (fuel level, oil pressure, etc.)	.....	12	(X)	121.8	(X)	70.1
38244 00	Motor vehicle instruments, except electric, n.s.k	.....	(NA)	(X)	1.4		
38240 00	Fluid meters and counting devices, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	8.0	(X)	.8
38240 02	Fluid meters and counting devices, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	12.1	(X)	-

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	INSTRUMENTS TO MEASURE ELECTRICITY						
3825- --	Total		(NA)	(X)	2,566.2	(X)	1,329.7
38251 --	Integrating instruments, electrical:						
	As reported in census of manufactures		28	(X)	223.5	(X)	169.5
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products		(X)	(X)	215.8	(X)	156.7
	A.c. watt hour meters:						
	Single phase:						
38251 10	Detachable types	Millions	4	[3]3,781.1	77.1	4,710.1	67.3
38251 11	A-base types		3				
38251 14	Switchboard types		1				
38251 15	Polyphase		5	287.1	24.1	329.5	14.9
38251 35	Demand meters (kW and kVA), combined watt-hour and demand meters (single phase and polyphase), and combined watt-hour and time switch meters	Millions	5	325.9	50.5	347.2	32.5
38251 51	Other electrical integrating meters, including d.c. watt-hour meters, ampere-hour meters, and other miscellaneous integrating instruments, n.e.c.		9	(X)	[3]11.4	(X)	42.0
38251 61	Parts for electric integrating meters, including meter mountings, registers, and test equipment, sold separately		8	(X)	42.1		
38251 00	Electrical integrating instruments, n.s.k.		3	(X)	10.5	(X)	-
38252 --	Equipment to test electrical, radio, and communication circuits and motors:						
	As reported in census of manufactures		253	(X)	1,784.9	(X)	869.0
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products		(X)	(X)	1,706.0	(X)	830.4
	Voltage, current, and resistance measuring equipment, except multimeters:						
	Electronic:						
38252 20	Digital		16	(X)	9.1	(X)	29.1
38252 21	Analog		34	(X)	85.2	(X)	20.3
38252 22	Electrical (service-type), except panel meters		16	(X)	14.5	(X)	7.3
	Multimeters:						
	Electronic:						
38252 28	Digital		14	(X)	42.9	(X)	21.2
38252 29	Analog		8				
38252 30	Electrical		7		19.7		
	Power and energy measuring equipment:						
	Electronic:						
38252 25	Analog		13	(X)	6.0	(X)	9.2
38252 26	Digital		2				
38252 27	Electrical		3		3.1		
	Frequency measuring equipment:						
	Electronic:						
38252 67	890 megacycles and over		6	[4]108.4	[3]56.1	(X)	33.4
38252 68	Other		14				
38252 69	Electrical and mechanical	Millions	3			95.5	3.7
	Waveform measuring and/or analyzing equipment:						
	Oscilloscopes and plug-in accessories:						
38252 12	Under 10 megacycles		15	(X)	294.6	(X)	130.0
38252 13	10 megacycles and over		8				
38252 14	Oscillographs (low frequency)		1				
38252 16	Other waveform measuring and analyzing equipment		21				
	Signal generating equipment:						
38252 56	Audio		18	(X)	10.8	(X)	14.8
38253 58	RF (over 20 kilocycles to 889 megacycles)		25	(X)	60.8	(X)	27.4
38252 59	Microwave (890 megacycles and over)		11	(X)	14.2	(X)	21.7
	Field strength and intensity measuring equipment, including RFI measuring equipment:						
38252 91	Electronic		12	(X)	[3]59.0	(X)	20.1
38252 92	Electrical field measuring equipment		2				
	Impedance and standing wave ratio measuring equipment (transfer function measuring equipment):						
38252 93	Electronic impedance and related measuring equipment		5	(X)	5.5	(X)	5.7
38252 94	Standing wave measuring equipment (slotted lines, sliding shorts, reflectometers, and other SWR equipment)		8	(X)	11.8	(X)	3.6
38252 96	Electronic time measuring and counting equipment (electronic chronoscopes and chronometers, range calibrators, time interval measuring equipment)		13	(X)	30.3	(X)	27.0
38252 97	Electronic X-Y plotters (recorders)		8	(X)	69.3	(X)	18.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)	Product shipments Quantity	Product shipments Value (million dollars)
3825- --	INSTRUMENTS TO MEASURE ELECTRICITY--Con.						
38252 --	Equipment to test electrical, radio, and communication circuits and motors--Con.						
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products--Con.						
	Multifunction test and measuring equipment:						
38252 44	Combination and/or group test sets		24	(X)	168.1	(X)	48.1
	Component part test sets:						
38252 45	Electron test tube equipment		8	(X)	3.1	(X)	4.2
38252 46	Semiconductor test equipment		16	(X)	83.8	(X)	29.9
38252 47	Other component part test sets and equipment		10	(X)	3.0	(X)	3.2
38252 48	Equipment and subassembly test equipment, n.e.c.		15	(X)	91.6	(X)	62.1
	Standards and calibration equipment for test measuring equipment, including laboratory types:						
38252 72	Electronic		18	(X)	26.0	(X)	7.4
38252 74	Electrical		10	(X)	14.1	(X)	5.2
38252 52	Microwave test equipment, n.e.c. (890 megacycles and over)		19	(X)	48.5	(X)	21.8
38252 39	Analyzers for testing characteristics of internal combustion engines		23	(X)	151.7	(X)	92.1
38252 82	Associated devices for electronic and electrical test and measuring equipment		32	(X)	37.0	(X)	18.0
38252 98	Other test measuring and analyzing equipment for electronic and electrical circuits and equipment		74	(X)	286.1	(X)	145.1
38253 --	Instruments to measure electricity, n.e.c.:						
	As reported in census of manufactures		154	(X)	429.9	(X)	223.4
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products		(X)	(X)	399.8	(X)	200.4
38253 08	Digital panel meters (DPM) between 0.05 percent and 1 percent plus-or-minus 1-digit accuracy, excluding precision DVM's and electronic counters	Millions	24	[3]339.6	25.6	(S)	3.7
38253 10	Analog solid state panel meters (generally of plus-or-minus 2 percent accuracy) with LED, LDC, or neon gas discharge display		2			(S)	(1)
	Panel types other than ruggedized or sealed (generally of 2 percent accuracy):						
38253 12	A.c., including moving iron vane and dynamometer types.		14	[3]688.1	10.3	(S)	6.6
38253 13	D.c., including rectifier and self-contained thermocouple types		16	[4]3,522.7	42.1	2,831.8	29.0
38253 11	Panel types ruggedized or sealed (generally of 2 percent accuracy)		15	[5]628.4	11.3	(S)	7.2
	Panel types with control or signal initiating means, including instrument relays:						
38253 16	Indicating		11	226.5	8.9	145.8	4.9
38253 17	Nonindicating		3				
38253 19	All other panel type instruments, including ammeters and voltmeters for motor vehicles		19	[3]10,503.5	[3]40.6	(S)	[1]11.8
	Switchboard instruments (generally of 1 percent accuracy):						
38253 23	A.c., including moving iron vane and dynamometer types		6	55.8	7.1	(S)	10.1
38253 25	D.c., including rectifier and thermocouple types		7	[3]52.5	7.0		
38253 27	Elapsed time meter (with and without reset)		9	[4]1,163.1	15.3	(S)	5.9
	Portable instruments (generally capable of accuracies within plus-or-minus 2 percent full scale indications), which can be cased for moving and using at various locations, and which are an end product:						
38253 29	Portable types, accuracy rating 0.11 percent thru 0.50 percent		5	9.0	2.1	(S)	5.1
38253 30	Portable types, accuracy rating 0.51 percent thru 2 percent		13	[3]70.6	4.9	(S)	3.0
38253 35	Laboratory portable instruments with accuracies within plus-or-minus 1 percent up to 1/10 percent of full scale and better (all case sizes)		5				
38253 37	Volt-ohm millimeter (VOM), accuracy 0.10 percent thru 5 percent	Millions	1	[3]45.0	3.4		
38253 45	Other electrical indicating instruments, except self-balancing types		7	(X)	5.6	(S)	6.1
	Electrical recording instruments (portable and panel mounting), excluding potentiometer and bridge self-balancing types:						
38253 50	Direct deflecting (direct acting, except temperature calibrated instruments), excluding oscillographic types.		7	334.2	17.2	35.4	10.1
	Oscillographic recorders:						
38253 63	Pen or stylus type	Millions	11	57.7	90.5	11.1	27.2
38253 65	Light beam type	Millions	3			4.5	13.0
38253 72	Other electrical recording instruments		26	(X)	77.2	(X)	40.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
3825- --	INSTRUMENTS TO MEASURE ELECTRICITY--Con.						
38253 --	Instruments to measure electricity, n.e.c.--Con.						
	As reported in Current Industrial Reports, MA-38B, Selected Instruments and Related Products--Con.						
	Parts and accessories for indicating and recording instruments:						
38253 74	Transducers for volts, amperes, watts, vars, frequency, temperature, and power factor	.....	18	(X)	[3]14.9	(X)	5.9
38253 75	Tachometer generators, except aerospace types	.....	7	(X)	2.5	(X)	1.4
38253 76	Other, including instrument shunts	.....	20	(X)	13.4	(X)	5.6
38250 00	Instruments to measure electricity, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	61.4	(X)	49.9
38250 02	Instruments to measure electricity, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	66.4	(X)	17.9
	MEASURING AND CONTROLLING DEVICES, N.E.C.						
3829- --	Total	.....	(X)	(X)	1,073.1	(X)	585.9
38291 --	Aircraft engine instruments, except flight:						
	As reported in census of manufactures	.....	49	(X)	120.1	(X)	74.5
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	115.2	(X)	70.8
38291 45	Temperature sensors, transmitters, and displays	.....	19	(X)	26.7	(X)	16.8
38291 46	Pressure ratio sensors, displays, and controls	.....	7	(X)	8.5	(X)	4.9
38291 47	Pressure and vacuum sensors, transmitters, and displays	.....	8	(X)	11.6	(X)	5.6
38291 58	Fuel and oil flow rate sensors, transmitters, and displays, including mixture controls	.....	7	(X)	8.7	(X)	6.4
38291 60	Fuel and oil quantity sensors, transmitters, and displays, including densitometers	.....	6	(X)	30.9	(X)	14.7
38291 62	Tachometer generators and indicators	.....	6	(X)	4.1		
38291 98	All other	.....	15	(X)	24.9	(X)	22.4
38292 --	Physical properties and kinematic testing and inspection equipment:						
	As reported in census of manufactures	.....	135	(X)	276.6	(X)	106.3
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	276.4	(X)	96.7
	Stress, strain, and flaw detecting and measuring equipment:						
38292 30	Electronic types	.....	32	(X)	63.5	(X)	22.3
38292 31	Other types	.....	13	(X)	13.5	(X)	13.5
	Other physical properties testing and inspection equipment:						
38292 54	Electronic types	.....	24	(X)	23.7	(X)	13.1
38292 55	Other types	.....	33	(X)	37.9	(X)	21.6
	Kinematic test and measuring equipment:						
38292 92	Vibration	.....	17	(X)	[3]46.3	(X)	16.1
38292 93	Acceleration and all other kinematic test and measuring equipment	.....	15	(X)	15.0	(X)	10.1
38292 00	Physical properties and kinematic testing and inspection equipment, n.s.k.	.....	5	(X)	76.5	-	-
38293 --	Commercial, meteorological, and general purpose instruments:						
	As reported in census of manufactures	.....	143	(X)	226.8	(X)	94.5
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	195.3	(X)	87.9
38293 20	Barometers and barographs, aneroid and mercurial types, including recorders, wall, pendant, meteorological, hygrothermographs, barometer-thermometer-humidity combinations	.....	15	(X)	10.3	(X)	8.8
38293 21	Hydrometers, glass, all types, including thermo-hydrometers	Thousands.....	7	[4]620.7	1.8		
38293 22	Liquid-in-glass thermometers: Engraved (etched) stem, thermoregulators, deep-sea reversing, laboratory, encased glass, ASTM standards, pocket case, max-min registering, except clinical thermometers	.....	21	(X)	7.6	(X)	5.3
38293 23	Threaded and flanged types, fixed and adjustable angle, in-line and duct installations, for process, food, air conditioning, and refrigeration installations	Thousands.....	12	[3]450.3	3.7	(X)	3.1
38293 24	Household and commercial thermometers, wall, outdoor, domestic science, cupcase, filled systems, indoor-outdoor		11	23,505.8	14.3	(X)	8.5
38293 34	Clinical (fever) thermometers		10	[3]39,010.9	[3]16.8	25.3	14.7
	Bimetal thermometers:						
38293 25	Threaded and flanged types, for pipeline and duct installations, including general and pocket test		16	[3]2,131.6	[3]16.9	(X)	8.5
38293 26	Domestic science, commercial general test, indoor, outdoor, desk models, oven, refrigerator	Thousands.....	10	[4]8,763.6	12.3	(X)	6.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
3829- --	MEASURING AND CONTROLLING DEVICES, N.E.C.--Con.						
38293 --	Commercial, meteorological, and general purpose instruments--Con.						
	As reported in Current Industrial Reported MA-38B, Selected Instruments and Related Products--Con.						
38293 27	Infrared thermometers, portable	.....	2	(X)	16.1	(X)	-
38293 28	Humidity indicating and recording instruments, bi-hygroscopic and hygroscopic element, indicators, psychrometers, wet and dry bulb, hygrographs, indicating hygrometers, excluding process type and humidistats	.....	10			(X)	1.0
38293 29	Other commercial and meteorological instruments, except aircraft, including compasses, altimeters, wind speed and direction, rain gauges, and thermographs	.....	37	(X)	68.3	(X)	31.3
38293 00	Commercial, meteorological, and general purpose instruments, n.s.k.	.....	3	(X)	27.1	-	-
38294 --	Nuclear radiation detection and monitoring instruments:						
	As reported in census of manufactures	.....	73	(X)	344.2	(X)	198.2
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	350.7	(X)	187.6
38294 02	Radiation detecting elements, including ion chambers, sold separately	Thousands.....	12	22.9	29.0	9.7	12.0
38294 04	Solid state detectors, sold separately	.....	4				
38294 06	Nuclear monitoring instruments, including environmental, personal dosimetery, and medical monitors, both stationary and portable type	.....	17	(X)	189.4	(X)	13.7
38294 07	Medical and biological counting systems for In Vivo counting	.....	4			(X)	39.1
38294 09	Sample and flow counting systems, manual and automatic	.....	8	(X)	24.6	(X)	16.6
38294 19	Scalers, sold separately	Thousands.....	11	[3]1.0	.9	(X)	2.0
38294 21	Special amplifiers for nuclear applications, sold separately		6	3.9	2.3	(X)	2.2
	Pulse analyzers, including nuclear spectrometers:						
38294 22	Single channel pulse height analyzers sold separately		11	[4]9	.7	2.5	2.6
38294 23	Multichannel pulse height analyzers sold separately		7	[5]2.4	32.5	3.3	9.6
38294 25	Count rate meters, sold separately	Thousands.....	10	1.5	1.1	2.6	1.8
38294 29	Measurement and control devices using Beta, Gamma, or neutron gauge technology	.....	10	(X)	46.9		
38294 28	Input-output accessories for multichannel analyzers, sold separately	.....	2	(X)	2.9	(X)	38.5
38294 30	Nuclear power supplies, sold separately	.....	3				
38294 32	Neutron and photon activation analysis systems	.....	-	-	-	-	-
38294 34	Nuclear instrument modules, n.e.c.	.....	7	(X)	6.3	(X)	49.5
38294 39	Other nuclear radiation detection and monitoring instruments	.....	10	(X)	14.1	-	-
38290 00	Measuring and controlling devices, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	76.4	(X)	89.0
38290 02	Measuring and controlling devices, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	29.1	(X)	23.4
	OPTICAL INSTRUMENTS AND LENSES						
3832- --	Total	.....	(NA)	(X)	1,299.7	(X)	584.7
38324 --	Sighting, tracking, and fire-control equipment, optical type:						
	As reported in census of manufactures	.....	59	(X)	227.3	(X)	83.1
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	208.0	(X)	78.5
38324 01	Made from lenses, prisms, etc., produced in same plant	.....	44	(X)	122.2	(X)	47.6
38324 02	Made from purchased lenses, prisms, etc	.....	34	(X)	85.8	(X)	30.9
38325 --	Optical instruments, components, and lenses, except opthalmic:						
	As reported in census of manufactures	.....	165	(X)	390.0	(X)	(NA)
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products	.....	(NA)	(X)	373.3	(X)	199.8
38325 01	Binoculars, prismatic and nonprismatic	.....	9	(X)	.8	(X)	5.6
38325 05	Optical alignment and display instruments and systems, except photographic	.....	18	(X)	28.2		
38325 10	Optical test equipment, including standard sources, modulators, optical comparators, interferometers, except optical microscopes	.....	27	(X)	[3]81.6	(X)	38.8
38325 15	Optical microscopes	.....	3				

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies	Product shipments[1] Quantity	Product shipments[1] Value (million dollars)	Product shipments Quantity	Product shipments Value (million dollars)
3832- --	OPTICAL INSTRUMENTS AND LENSES--Con.						
38325---	Optical instruments, components, and lenses, except opthalmic--Con.						
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products--Con.						
38325 20	Optical components, including mirrors, filters, gratings, coatings, movements, reflectors, reticles, prisms, monochrometers, light amplifiers, Kerr cells, etc., excluding lenses		55	(X)	86.5		
	Lenses, except ophthalmic focus lenses:						
38325 21	Unmounted lenses		20	(X)	7.9	(X)	155.4
	Mounted lenses:						
38325 22	Photographic lenses		12	(X)	8.1		
38325 23	Other mounted lenses		10				
38325 25	Other optical instruments, excluding analytical instruments listed above and sighting and fire-control equipment		43	(X)	148.0		
38325 00	Optical instruments, components, and lenses, except ophthalmic, n.s.k.		3	(X)	12.2	(X)	-
38326 --	Analytical and scientific instruments, except optical:						
	As reported in census of manufactures		133	(X)	604.5	(X)	(NA)
	As reported in Current Industrial Reports MA-38B, Selected Instruments and Related Products		(NA)	(X)	588.7	(X)	216.4
38326 01	pH electrodes and meters		15	(X)	15.3	(X)	6.8
38326 03	Ion selective electrodes and meters		6	(X)	4.4		
38326 04	Electrophoresis chambers and supplies		15	(X)	20.1	(X)	11.4
38326 05	Other, except process type, including polarographic, redox, titraters, etc		16	(X)	8.7	(X)	2.0
	Chromatographic instruments:						
38326 07	Gas	Number	12	[4]24,353	91.2	(X)	53.6
38326 08	Other, including liquid, paper, and gel		13	[4]11,503	53.2		
38326 10	Spectographs		7	[4]1,521	19.9	(X)	8.1
	Spectographic instruments:						
38326 12	Atomic absorption and flame emission		5	[3]5,545	58.3	(X)	28.4
38326 13	Infrared		8				
38326 14	Ultraviolet/visible		15	[3]26,364	48.6	(X)	24.5
38326 15	Fluoresence instruments		5	[5]2,192	9.0	(X)	4.1
38326 16	Densitometers, reflection and glass meters	Number	9	[3]3,642	25.6	(X)	4.9
38326 17	Other, including near UV visible and colorimeters		14	(X)	20.8	(X)	10.7
38326 19	Thermal analysis instruments; TGA, DTA, QTA, etc		7	(X)	20.2	(X)	17.7
38326 20	Nuclear magnetic resonance instruments	Number	1				
38326 21	Microscopes, electron and proton	Number	6	[4]274	14.6		
38326 23	Mass spectroscopy instrumentation		11	(X)	39.4	(X)	6.5
	Automatic chemical analyzers:						
38326 25	Multi-purpose	Number	2	[5]1,626	44.5	(X)	16.7
38326 27	Special purpose	Number	6				
38326 28	Other analytic instruments including CHNOS, particle analyzers, osmometers, amino acid and protein analyzers, etc		37	(X)	95.0	(X)	21.0
38320 00	Optical instruments and lenses, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	53.9	(X)	40.6
38320 02	Optical instruments and lenses, n.s.k., typically for establishment with less than 5 employees (see note)		(NA)	(X)	23.9	(X)	16.6

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00", or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For 1977, content of products in product class 3811 were revised to exclude navigational systems, which was moved to industry 3662.

[3]10 to 25 percent estimated.

[4]26 to 50 percent estimated.

[5]Over 50 percent estimated.

[6]Data for product codes 33220 50, 38220 55, and 38220 65 were combined to avoid disclosing operations of individual companies.

[7]For 1972, product codes 38230 29, 38230 09, 38230 10, 38230 12, 38230 14, 38230 15, 38230 16, and 38230 18 were combined to avoid disclosing operations of individual companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
38111, AERONAUTICAL, NAUTICAL, AND NAVIGATIONAL INSTRUMENTS		
United States	804.6	573.7
New England Division:		
New Hampshire	20.6	AA
Massachusetts	56.4	31.7
Connecticut	50.0	19.8
Middle Atlantic Division:		
New York	29.1	61.2
New Jersey	99.3	61.1
Pennsylvania	52.9	25.2
East North Central Division:		
Illinois	4.6	23.6
South Atlantic Division:		
Florida	64.2	19.1
Pacific Division:		
California	88.4	86.4
38112, LABORATORY AND SCIENTIFIC APPARATUS		
United States	696.6	335.9
Middle Atlantic Division:		
New York	33.1	13.6
New Jersey	62.9	29.9
Pennsylvania	29.9	31.0
East North Central Division:		
Ohio	29.6	13.1
Illinois	56.8	40.5
Michigan	17.0	11.4
South Atlantic Division:		
Maryland	22.9	12.7
Virginia	4.5	(NA)
West South Central Division:		
Texas	12.4	12.4
Mountain Division:		
Colorado	6.4	BB
Pacific Division:		
California	146.3	EE
38113, SURVEYING AND DRAFTING INSTRUMENTS		
United States	168.9	126.2
Middle Atlantic Division:		
New York	14.6	10.6
East North Central Division:		
Ohio	11.5	CC
Michigan	19.6	20.6
Pacific Division:		
California	19.4	7.5
38242, NONELECTRICAL TOTALIZING FLUID AND GAS METERS		
United States	344.0	207.7
Middle Atlantic Division:		
Pennsylvania	136.9	76.0
East North Central Division:		
Michigan	5.1	(NA)
West South Central Division:		
Texas	14.7	AA
Pacific Division:		
California	25.1	CC
38243, COUNTING DEVICES		
United States	147.0	48.8
New England Division:		
Connecticut	15.4	CC
Middle Atlantic Division:		
New Jersey	15.6	2.4
East North Central Division:		
Illinois	20.1	CC
38244, MOTOR VEHICLE INSTRUMENTS, EXCEPT ELECTRIC		
United States	123.2	70.1
East North Central Division:		
Illinois	27.9	EE
38251, ELECTRICAL INTEGRATING INSTRUMENTS		
United States	223.5	169.5
Pacific Division:		
California	10.2	EE
38252, TEST EQUIPMENT FOR TESTING ELECTRICAL CIRCUITS		
United States	1,784.9	869.0
New England Division:		
Massachusetts	102.6	38.2
Connecticut	32.7	CC
Middle Atlantic Division:		
New York	109.9	103.4
New Jersey	164.3	73.2
Pennsylvania	23.0	16.7
East North Central Division:		
Ohio	28.5	22.3
Indiana	11.1	BB
Illinois	127.2	73.1
Michigan	60.3	20.5
Wisconsin	8.1	BB
West South Central Division:		
Texas	28.5	12.1
Pacific Division:		
California	502.6	246.3
38253, OTHER INSTRUMENTS TO MEASURE ELECTRICITY		
United States	429.9	223.4
New England Division:		
New Hampshire	33.0	16.6
Massachusetts	36.5	17.2
Middle Atlantic Division:		
New York	19.0	5.7
Pennsylvania	18.4	14.1
East North Central Division:		
Ohio	49.0	20.9
Illinois	31.5	21.8
West South Central Division:		
Texas	6.7	5.4
Pacific Division:		
California	87.2	42.3

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
38291, AIRCRAFT ENGINE INSTRUMENTS, EXCEPT FLIGHT		
United States	120.1	74.5
New England Division:		
Connecticut	8.0	BB
Pacific Division:		
California	8.7	BB
38292, PHYSICAL PROPERTIES TESTING AND INSPECTION EQUIPMENT		
United States	276.6	106.3
Middle Atlantic Division:		
New York	17.4	7.3
New Jersey	18.3	3.8
Pennsylvania	28.9	17.4
East North Central Division:		
Ohio	19.4	BB
Illinois	21.5	10.2
Michigan	24.6	9.4
West South Central Division:		
Texas	3.8	AA
Pacific Division:		
California	84.2	EE
38293, GENERAL PURPOSE INSTRUMENTS		
United States	226.8	94.5
New England Division:		
Massacusetts	16.6	BB
Connecticut	8.9	BB
Middle Atlantic Division:		
New York	20.4	CC
New Jersey	25.2	11.7
Pennsylvania	47.2	FF
East North Central Division:		
Ohio	9.1	BB
Illinois	11.4	EE
Michigan	2.4	(NA)
Wisconsin	3.9	(NA)
West South Central Division:		
Texas	24.5	(NA)
Pacific Division:		
California	22.0	3.5
38294, NUCLEAR RADIATION DETECTION AND MONITORING INSTRUMENTS		
United States	344.2	198.2
Middle Atlantic Division:		
New York	12.8	CC
East North Central Division:		
Ohio	62.9	51.3
West South Central Division:		
Texas	5.6	BB
Pacific Division:		
California	46.8	EE
38324, SIGHTING, TRACKING AND FIRE CONTROL EQUIPMENT		
United States	227.3	(NA)
New England Division:		
Massachusetts	18.2	(NA)
Middle Atlantic Division:		
New York	51.2	(NA)
Pacific Division:		
California	23.3	(NA)
38325, OPTICAL INSTRUMENTS AND LENSES, EXCEPT OPHTHALMIC		
United States	390.0	(NA)
New England Division:		
Massachusetts	46.1	(NA)
Middle Atlantic Division:		
New York	88.4	(NA)
New Jersey	13.1	(NA)
Pennsylvania	16.8	(NA)
East North Central Division:		
Illinois	6.4	(NA)
South Atlantic Division:		
Maryland	11.2	(NA)
Pacific Division:		
California	68.4	(NA)
38326, ANALYTICAL AND SCIENTIFIC INSTRUMENTS		
United States	604.5	(NA)
New England Division:		
Massachusetts	105.4	(NA)
Middle Atlantic Division:		
New York	28.5	(NA)
New Jersey	10.2	(NA)
Pacific Division:		
California	183.0	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. n.e.c. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3811-	Engineering and scientific instruments	1,849.5	1,598.5	1,526.2	1,580.0	1,317.2	1,106.0	1,049.0	688.5
38111	Aeronautical, nautical, and navigational instruments	804.6	812.0	837.1	788.2	689.4	573.7	585.5	410.6
38112	Laboratory and scientific apparatus	696.6	589.6	491.3	584.2	420.6	335.9	259.7	161.6
38113	Surveying and drafting instruments	168.9	191.6	183.5	183.2	149.0	126.2	139.4	104.1
38110	Engineering and scientific instruments, n.s.k.	179.4	(S)	(S)	(24.4)	58.2	70.2	64.4	12.3
38220	Heating, air conditioning, appliance controls	1,106.4	996.0	735.3	832.4	846.4	658.1	523.6	431.6
38230	Industrial process instruments	2,061.1	1,594.4	1,406.3	1,217.6	923.8	794.7	(NA)	(NA)
3824-	Fluid meters and counting devices	634.3	508.9	443.9	460.4	383.5	327.4	(NA)	(NA)
38242	Nonelectrical totalizing fluid and gas meters	344.0	271.4	252.2	285.4	209.0	207.7	189.2	163.7
38243	Counting devices	147.0	98.0	93.4	72.8	64.9	48.8	(NA)	(NA)
38244	Motor vehicle instruments, except electric	123.2	139.3	97.0	102.1	100.8	70.1	71.4	69.8
38240	Fluid meters and counting devices, n.s.k.	20.1	(S)	1.3	(0.1)	8.8	0.8	(NA)	(NA
3825-	Instruments to measure electricity	2,566.2	2,078.3	1,955.2	1,944.9	1,639.6	1,329.7	1,137.1	736.2
38251	Electrical integrating instruments	223.5	203.7	216.2	230.9	188.8	169.5	101.6	93.2
38252	Test equipment for testing electrical circuits	1,784.9	1,432.3	1,313.5	1,307.4	1,086.2	869.0	700.4	443.4
38253	Other instruments to measure electricity	429.9	438.6	423.4	387.2	303.3	223.4	279.2	185.3
38250	Instruments to measure electricity, n.s.k.	127.8	(S)	(S)	(19.4)	61.3	67.8	56.5	14.3
3829-	Measuring and controlling devices, n.e.c.	1,073.1	804.8	778.6	714.4	601.0	585.9	(NA)	(NA)
38291	Aircraft engine instruments, except flight	120.1	91.1	96.2	88.9	77.4	74.5	120.0	66.4
38292	Physical properties testing and inspection equipment	276.6	(203.9)	(188.8)	166.4	124.1	106.3	(NA)	(NA)
38293	General purpose instruments	226.8	195.5	(173.7)	159.4	124.2	94.5	(NA)	(NA)
38294	Nuclear radiation detection and monitoring instruments	344.2	308.3	312.4	278.3	209.7	198.2	(NA)	(NA)
38290	Measuring and controlling devices, n.e.c., n.s.k.	105.5	(S)	7.5	(21.4)	(65.6)	112.4	(NA)	(NA)
3832-	Optical instruments and lenses	1,299.7	1,122.3	1,030.0	877.0	650.4	584.7	559.1	376.5
38324	Sighting, tracking and fire control equipment	227.3	185.3	145.3	116.6	92.4	83.1	176.7	158.0
38325	Optical instruments and lenses, except ophthalmic	390.0	932.8	869.5	742.4	526.5	444.4	353.8	212.8
38326	Analytical and scientific instruments	604.5							
38320	Optical instruments and lenses, n.s.k.	77.8	(S)	(S)	(18.0)	31.5	57.2	28.6	5.7

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3811, ENGINEERING AND SCIENTIFIC INSTRUMENTS					
	Materials, parts, containers, and supplies	.....	(X)	556.1	(X)	308.3
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	1.9	1.8	(S)	.8
331012	Sheet and strip		25.0	9.1	17.8	4.0
331013	Plates		.2	.3	(S)	.8
331015	Structural shapes		.2	.1	(S)	.5
331017	Wire and wire products		2.0	1.1	(S)	.6
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		2.9	.5	(S)	.7
331029	All other alloy steel mill shapes and forms		264.8	1.0	(S)	.3
	Stainless steel:					
331033	Sheet and strip		3.8	6.3	(S)	1.4
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	.7	2.3	.3	.7
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content).	.1	1.1	.3	.9
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....	.3	.3	.1	.2
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		1.4	1.1	.6	.6
335143	Plate, sheet, and strip, including military cups and discs		.8	.2	.2	.2
335152	Pipe and tube		1.4	1.8	.2	.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		1.8	1.7	1.3	1.1
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		1.9	2.7	.8	.8
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	1.2	1.2	.8	.6
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	1.1	3.8	(S)	1.7
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	7.4	4.4	3.3
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		.3	.8	(S)	.8
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions.....	(S)	4.8	.1	3.5
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		(S)	6.6	.1	1.6
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	5.4	(X)	2.3
356201	Roller	.....	(X)	.2	(X)	.7
367010	Electron tubes, except X-rays:					
	Purchased	Millions.....	1.7	2.0	(S)	.5
	Produced and consumed		(S)	(X)	(S)	(X)
367408	Solid state semiconductors:					
	Purchased		28.5	18.8	14.8	10.7
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	42.3	(X)	[2]32.0
344401	Sheet metal products, except stampings	.....	(X)	12.6	(X)	[2]12.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	11.5	(X)	[2]9.0
364300	Current-carrying wiring devices	.....	(X)	11.7	(X)	([3])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	.....	2.0	1.3	(X)	([3])
349012	Fabricated wire products	.....	(X)	2.2	(X)	([3])
307902	Fabricated plastics products, except gaskets	.....	(X)	6.0	(X)	([3])
320101	Glass and glass products, excluding windows and mirrors	.....	(X)	2.8	(X)	([3])
346901	Metal stampings	.....	(X)	3.9	(X)	[2]5.0
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	22.0	(X)	[2]11.0
382591	Electrical measuring instruments and parts, n.e.c	.....	(X)	6.3	(X)	([3])
360101	Electrical transmission, distribution, and control equipment	.....	(X)	1.8	(X)	([3])
357301	Electrical computing equipment and parts	.....	(X)	11.4	(X)	([3])
970099	All other materials and components, parts, containers, and supplies	.....	(X)	223.1	(X)	[3]146.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	114.8	(X)	53.4

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3822, ENVIRONMENTAL CONTROLS					
	Materials, parts, containers, and supplies	.....	(X)	490.8	(X)	204.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	4.0	2.5	3.2	1.2
331012	Sheet and strip		29.9	11.4	26.1	6.1
331013	Plates		1.5	.6	(S)	(S)
331015	Structural shapes		(D)	(D)		
331017	Wire and wire products		(D)	(D)	1.6	.4
331019	All other carbon steel mill shapes and forms		2.3	1.6		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(D)	(D)	1.6	3.2
331029	All other alloy steel mill shapes and forms		.1	.4		
	Stainless steel:					
331033	Sheet and strip		11.2	6.8	1.8	2.7
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	3.6	6.1	2.1	3.0
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content).	1.2	1.8	3.5	2.0
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only	Million lb.....	(D)	(D)	5.3	3.6
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		9.9	8.9	12.7	6.5
335143	Plate, sheet, and strip, including military cups and discs		10.4	12.0	6.0	5.1
335152	Pipe and tube		11.5	11.9	6.0	6.7
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		5.2	4.5	3.3	1.6
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		4.4	3.7		
335008	All other aluminum and aluminum-base alloy mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	1.4	1.5	2.6	2.1
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	.2	.7	.3	.3
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	9.1	4.6	10.2	6.0
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		2.7	3.2	(D)	(D)
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions.....	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	All other fractional horsepower electric motors, excluding timing motors:					
	Purchased		146.6	.9	88.3	.2
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	(D)	(S)	(D)
356201	Roller	.....	(X)	(D)	(X)	.1
367010	Electron tubes, except X-ray:					
	Purchased	Millions.....	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
367408	Solid state semiconductors:					
	Purchased		(D)	(D)	5.5	2.2
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	(D)	(X)	[2]7.0
344401	Sheet metal products, except stampings	.....	(X)	2.0	(X)	[3]
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	19.6	(X)	[2]15.0
364300	Current-carrying wiring devices	.....	(X)	(D)	(X)	[3]
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	.....	(X)	5.2	(X)	[3]
349012	Fabricated wire products	.....	(X)	1.4	(X)	[2]11.0
307902	Fabricated plastics products, except gaskets	.....	(X)	7.1	(X)	[2]5.0
320101	Glass and glass products, excluding windows and mirrors	.....	(X)	.1	(X)	[3]
346901	Metal stampings	.....	(X)	8.9	(X)	[3]
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	3.6	(X)	[2]2.0
382591	Electrical measuring instruments and parts, n.e.c	.....	(Z)	.4	(X)	[2]11.0
360101	Electrical transmission, distribution, and control equipment	.....	(Z)	.3	(X)	[2]5.0
357301	Electronic computing equipment and parts	.....	(X)	(D)	(X)	[3]
970099	All other materials and components, parts, containers, and supplies	.....	(X)	288.0	(X)	[3]76.7
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	28.7	(X)	12.4

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3823, PROCESS CONTROL INSTRUMENTS					
	Materials, parts, containers, and supplies	.....	(X)	566.7	(X)	237.8
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	4.1	3.2	11.0	2.8
331012	Sheet and strip		6.0	3.0	7.4	1.9
331013	Plates		(X)	1.4		
331015	Structural shapes		(X)	2.7	10.4	3.6
331017	Wire and wire products					
331019	All other carbon steel mill shapes and forms		(X)	1.8		
	Alloy steel, except stainless:					
331021	Bars and bar shapes		.5	.8	.1	.2
331029	All other alloy steel mill shapes and forms		.9	2.3	.4	.9
	Stainless steel:					
331033	Sheet and strip		2.3	6.7	1.0	2.0
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	3.4	11.3	1.8	4.3
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content).	.8	1.2	.8	1.0
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only	Million lb.....	.5	1.1	.4	.5
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		3.8	3.5	4.1	2.8
335143	Plate, sheet, and strip, including military cups and discs		.4	.6	.4	.4
335152	Pipe and tube		.8	1.8	1.2	1.2
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		2.2	2.1	1.2	.8
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		1.3	1.7	.6	.4
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	.2	.7	.5	.3
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	9.2	11.9	2.4	2.4
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	10.2	13.3	4.9	4.4
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		3.6	5.4	.5	.7
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions.....	.2	4.1	.1	2.5
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		.1	1.8	.1	1.4
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	.4	(X)	.3
356201	Roller	.....	(X)	.1		
367010	Electron tubes, except X-rays:					
	Purchased	Millions.....	653.4	1.9	.5	.6
	Produced and consumed		(S)	(X)	(S)	(X)
367408	Solid state semiconductors:					
	Purchased		15.9	13.4	12.8	6.2
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	30.1	(X)	[2]28.0
344401	Sheet metal products, except stampings	.....	(X)	6.8	(X)	([3])
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	9.4	(X)	[2]15.0
364300	Current-carring wiring devices	.....	(X)	6.3	(X)	([3])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	.....	(X)	.8	(X)	([3])
349012	Fabricated wire products	.....	(X)	4.4	(X)	[2]4.0
307902	Fabricated plastics products, except gaskets	.....	(X)	11.6	(X)	[2]3.0
320101	Glass and glass products, excluding windows and mirrors	.....	(X)	3.2	(X)	[2]3.0
346901	Metal stampings	.....	(X)	6.6	(X)	([3])
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	16.8	(X)	[2]4.0
382591	Electrical measuring instruments and parts, n.e.c	.....	(X)	16.7	(X)	[2]22.0
360101	Electrical transmission, distribution, and control equipment	.....	(X)	17.3	(X)	[2]11.0
357301	Electronic computing equipment and parts	.....	(X)	8.7	(X)	([3])
970099	All other materials and components, parts, containers, and supplies	.....	(X)	236.2	(X)	[3]97.3
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	93.6	(X)	8.9

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3824, FLUID METERS AND COUNTING DEVICES					
	Materials, parts, containers, and supplies	.....	(X)	213.0	(X)	104.2
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons.	*3.4	2.1	1.3	.5
331012	Sheet and strip		**2.5	1.4	3.5	1.1
331013	Plates		(5)	(5)	.3	.1
331015	Structural shapes		-	-		
331017	Wire and wire products		(S)	[3]2.5	.3	.1
331019	All other carbon steel mill shapes and forms					
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	.3	(S)	(Z)
331029	All other alloy steel mill shapes and forms					
	Stainless steel:					
331033	Sheet and strip		1.4	3.1	.2	.2
331050	All other stainless steel mill shapes and forms	1,000 s. tons.	(S)	1.1	.2	.3
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content).	(S)	.5	.1	.1
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only	Million lb.	6.5	4.3	(D)	(D)
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	2.9	.9	1.0
335143	Plate, sheet, and strip, including military cups and discs				.7	.8
335152	Pipe and tube		(S)	.1	(S)	(S)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	1.8	3.4	1.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc					
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.	(S)	4.0		
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons.	*7.6	7.6	.5	.8
	Produced and consumed	1,000 s. tons.	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.	6.8	11.7	15.6	15.3
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		6.2	8.7	12.1	12.3
	Produced and consumed	Million lb.	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		(D)	(D)	(D)	(D)
	Produced and consumed	Millions	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	1.4	(X)	.3
356201	Roller	.....			(D)	(D)
367010	Electron tubes, except X-rays:					
	Purchased	Millions	(D)	(D)	(D)	(D)
	Produced and consumed		(S)	(X)	(S)	(X)
367408	Solid state semiconductors:					
	Purchased		(D)	(D)	1.6	.6
	Produced and consumed	Millions	(S)	(X)	(S)	(X)
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	14.6	(X)	(3)
344401	Sheet metal products, except stampings	.....	(X)	3.2	(X)	(3)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	9.9	(X)	[2]5.0
364300	Current-carrying wiring devices	.....	(X)	.3	(X)	(3)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	.....	(X)	7.3	(X)	(3)
349012	Fabricated wire products	.....	(X)	(D)	(X)	[2]1.0
307902	Fabricated plastics products, except gaskets	.....	(X)	5.6	(X)	[2]5.0
320101	Glass and glass products, excluding windows and mirrors	.....	(X)	.7	(X)	(3)
346901	Metal stampings	.....	(X)	2.9	(X)	(3)
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	2.7	(X)	(3)
382591	Electrical measuring instruments and parts, n.e.c	.....	(X)	(D)	(X)	(3)
360101	Electrical transmission, distribution, and control equipment	.....	(X)	(D)	(X)	(3)
357301	Electronic computing equipment and parts	.....	(X)	(D)	(X)	(3)
970090	All other materials and components, parts, containers, and supplies	.....	(X)	71.1	(X)	[3]51.5
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	21.6	(X)	7.0

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3825, INSTRUMENTS TO MEASURE ELECTRICITY					
	Materials, parts, containers, and supplies	.....	(X)	859.2	(X)	458.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	(S)	1.6	1.9	1.3
331012	Sheet and strip		(S)	11.3	16.9	5.4
331013	Plates		(S)	.1	.8	.7
331015	Structural shapes		(S)	.4	(6)	(6)
331017	Wire and wire products		(S)	1.6	.7	.8
331019	All other carbon steel mill shapes and forms		(S)	.1	6.5	6.2.6
	Alloy steel, except stainless:					
331021	Bars and bar shapes		(S)	.6	.1	.1
331029	All other steel mill shapes and forms		.6	3.4	2.8	1.5
	Stainless steel:					
331033	Sheet and strip		.7	1.4	.7	1.0
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	3.1	.6	.2
335792	Insulated copper wire and cable, except magnet wire	Mil. lb (copper content).	(S)	3.9	3.3	3.8
	Copper and copper-base alloy:					
335728	Bare wire for electrical conduction only	Million lb.....	2.4	3.3	2.5	2.7
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		(S)	1.7	2.0	1.8
335143	Plate, sheet, and strip, including military cups and discs		3.8	4.8	2.4	2.1
335152	Pipe and tube		(S)	.3	.1	.1
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		*5.9	6.0	7.5	2.5
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		**5.3	6.5	2.0	1.6
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	(S)	.8	1.3	.3
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	(S)	.8	.1	.4
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	(S)	4.1	4.2	2.9
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		(S)	.1	.3	(Z)
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions.....	(S)	4.5	.3	1.9
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding timing motors:					
	Purchased		(S)	5.1	.1	.8
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	.5	(X)	.3
356201	Roller	.....	(X)	.2	(S)	(S)
367010	Electron tubes, except X-rays:					
	Purchased	Millions.....	(S)	4.1	1.2	4.5
	Produced and consumed		(S)	(X)	(S)	(X)
367408	Solid state semiconductors:					
	Purchased		(S)	53.7	69.2	36.5
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	117.7	(X)	2.89.0
344401	Sheet metal products, except stampings	.....	(X)	15.2	(X)	(3)
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	14.0	(X)	2.7.0
364300	Current-carrying wiring devices	.....	(X)	12.8	(X)	(3)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	.....	(X)	7.4	(X)	(3)
349012	Fabricated wire products	.....	(X)	8.6	(X)	2.3.0
307902	Fabricated plastics products, except gaskets	.....	(X)	10.6	(X)	2.5.0
320101	Glass and glass products, excluding windows and mirrors	.....	(X)	5.8	(X)	2.5.0
346901	Metal stampings	.....	(X)	6.5	(X)	(3)
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(X)	18.3	(X)	(3)
382591	Electrical measuring instruments and parts, n.e.c	.....	(X)	53.9	(X)	2.69.0
360101	Electrical transmission, distribution, and control equipment	.....	(X)	2.8	(X)	2.8.0
357301	Electronic computing equipment and parts	.....	(X)	21.0	(X)	2.16.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	304.7	(X)	3.127.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	135.9	(X)	52.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3829, MEASURING AND CONTROLLING DEVICES, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	357.5	(X)	176.0
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s. tons..	6.9	4.0	1.5	.7
331012	Sheet and strip		3.5	1.8	5.3	1.4
331013	Plates		2.0	1.6	.4	.1
331015	Structural shapes		(S)	1.2	(S)	.7
331017	Wire and wire products		(S)	.3	(Z)	(Z)
331019	All other carbon steel mill shapes and forms		.8	.5	(S)	.4
	Alloy steel, except stainless:					
331021	Bars and bar shapes		1.8	2.1	(S)	.3
331029	All other alloy steel mill shapes and forms		.8	1.4	(S)	.6
	Stainless steel:					
331033	Sheet and strip		.9	2.1	.5	.6
331050	All other stainless steel mill shapes and forms	1,000 s. tons..	(S)	3.4	.4	.8
335792	Insulated copper wire and cable, except magnet wire	Mil. lb. (copper content).	(S)	3.4	(S)	1.5
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	Million lb.....	(S)	.2	.2	.1
335102	Rod, bar, and mechanical wire, including extruded and/or drawn shapes		5.7	3.1	5.9	3.2
335143	Plate, sheet, and strip, including military cups and discs		(S)	1.9	3.3	2.6
335152	Pipe and tube		(S)	1.9	1.1	1.0
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil		(S)	2.2	.5	.4
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc		3.5	1.2	(S)	.6
335008	All other aluminum mill shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	Million lb.....	.6	.7	(S)	.6
	Castings (rough and semifinished):					
332045	Steel:					
	Purchased	1,000 s. tons..	2.0	2.5	2.6	1.3
	Produced and consumed	1,000 s. tons..	(S)	(X)	(S)	(X)
336100	Aluminum and aluminum-base alloy:					
	Purchased	Million lb.....	.8	2.5	.6	1.0
	Produced and consumed		(S)	(X)	(S)	(X)
336200	Copper and copper-base alloy:					
	Purchased		.4	.5	.8	1.0
	Produced and consumed	Million lb.....	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors (under 1 hp):					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions.....	(S)	2.6	.1	1.4
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower electric motors, excluding time motors:					
	Purchased		(S)	1.0	.1	.8
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
	Bearings:					
356218	Ball	.....	(X)	.9	(X)	.4
356201	Roller	.....	(X)	.2	(X)	(Z)
367010	Electron tubes, except X-ray:					
	Purchased	Millions.....	(S)	1.2	(Z)	1.2
	Produced and consumed		(S)	(X)	(S)	(X)
367408	Solid state semiconductors:					
	Purchased		(S)	9.0	(S)	3.3
	Produced and consumed	Millions.....	(S)	(X)	(S)	(X)
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	29.0	(X)	[2]16.0
344401	Sheet metal products, except stampings	.....	(X)	7.1	(X)	[3]
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	7.7	(X)	[2]2.0
364300	Current-carrying wiring devices	.....	(X)	1.0	(X)	[3]
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., excluding sheets, rods, tubes, and shapes	.....	(X)	1.3	(X)	[3]
349012	Fabricated wire products	.....	(X)	.6	(X)	[2]1.0
307902	Fabricated plastics products, except gaskets	.....	(X)	4.7	(X)	[3]
320101	Glass and glass products, excluding windows and mirrors	.....	(X)	3.9	(X)	[2]6.0
346901	Metal stampings	.....	(X)	1.7	(X)	[3]
382501	Electrical instrument mechanisms and meter movements, including instrument relays	.....	(S)	7.8	(X)	[2]6.0
382591	Electrical measuring instruments and parts, n.e.c	.....	(X)	5.7	(X)	[2]8.0
360101	Electrical transmission, distribution, and control equipment	.....	(X)	2.7	(X)	[2]6.0
357301	Electronic computing equipment and parts	.....	(X)	16.9	(X)	[3]
970099	All other materials and components, parts, containers, and supplies	.....	(X)	116.8	(X)	[3]53.6
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	97.2	(X)	51.4

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3832, OPTICAL INSTRUMENTS AND LENSES					
	Materials, parts, containers, and supplies	.....	(X)	399.9	(X)	149.3
322941	Lens blanks, optical and ophthalmic	Millions.....	(S)	7.9	(X)	[3]
383201	Lenses and prisms for optical sighting and fire-control equipment	Millions.....	(S)	17.0	(X)	[3]
322901	Other optical glass	.....	(X)	5.3	(X)	[3]
367408	Semiconductors	Millions.....	(S)	18.6	(X)	[2]7.0
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except electron tubes and semiconductors	.....	(X)	66.4	(X)	[2]14.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	2.3	(X)	[3]
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	4.5	(X)	[3]
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc	Million lb.....	(S)	6.2	(X)	[3]
970099	All other materials and components, parts, containers, and supplies	.....	(X)	205.9	(X)	[3]94.1
971000	Materials, parts, containers, and supplies, n.s.k.[4]	.....	(X)	65.8	(X)	34.2

(D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]For 1972 these materials were included with material code 970099.

[4]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[5]For 1977, material codes 331013, 331017, and 331019 were combined to avoid disclosing operations of individual companies.

[6]For 1972, material codes 331015 and 331019 were combined to avoid disclosing operations of individual companies.

Medical Instruments; Ophthalmic Goods; Photographic Equipment; Clocks, Watches, and Watchcases

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DESCRIPTION OF INDUSTRIES

MEDICAL INSTRUMENTS; OPHTHALMIC GOODS; PHOTOGRAPHIC EQUIPMENT; CLOCKS, WATCHES, AND WATCHCASES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3841	Surgical and Medical Instruments
3842	Surgical Appliances and Supplies
3843	Dental Equipment and Supplies
3851	Ophthalmic Goods
3861	Photographic Equipment and Supplies
3873	Watches, Clocks, and Watchcases

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 Supplement.

INDUSTRY 3841, SURGICAL AND MEDICAL INSTRUMENTS

This industry comprises establishments primarily engaged in the manufacture of medical, surgical, ophthalmic, and veterinary instruments and apparatus. Establishments primarily engaged in the manufacture of surgical and orthopedic appliances are classified in industry 3842, and electrotherapeutic, electromedical, and X-ray apparatus in industry 3693.

The total value of shipments for establishments classified in the Surgical and Medical Instruments industry amounted to $1,829 million in 1977, an increase of 90 percent from 1972. The value of shipments of products classified as primary to the industry was $1,891 million, an increase of 92 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were surgical instruments, including suture needles, and eye, ear, nose, and throat instruments, for which shipments increased 180 percent, and hypodermic needles, for which shipments increased 108 percent. Value added by manufacture, at $1,212 million in 1977, was 92 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 43.2 thousand employees, an increase of 25 percent from 1972. The leading States in employment were Utah, California, New York, and Pennsylvania, accounting for approximately 50 percent of the industry's 1977 employment. Data for Utah have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. There has been some shift in the relative importance of individual States from 1972 when New York, New Jersey, and California were in the forefront of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3842, SURGICAL APPLIANCES AND SUPPLIES

This industry comprises establishments primarily engaged in the manufacture of orthopedic, prosthetic, and surgical appliances and supplies; arch supports and other foot appliances; fracture appliances, elastic hosiery, abdominal supporters, braces, and trusses; bandages; surgical gauze and dressings; sutures; adhesive tapes and medicated plasters; and personal safety appliances and equipment. Establishments primarily engaged in the manufacture of surgical and medical instruments are classified in industry 3841.

The total value of shipments for establishments classified in the Surgical Appliances and Supplies industry amounted to $2,588 million in 1977, an increase of 77 percent from 1972. The value of shipments of products classified as primary to the industry was $2,413 million, an increase of 111 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were surgical dressings, for which

shipments increased 78 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,586 million in 1977, was 70 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 53.5 thousand employees, an increase of 22 percent from 1972. The leading States in employment were California, New Jersey, Pennsylvania, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment. These same States were in the forefront for 1972.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3843, DENTAL EQUIPMENT AND SUPPLIES

This industry comprises establishments primarily engaged in the manufacture of artificial teeth, dental metals, alloys and amalgams, and a wide variety of equipment, instruments, and supplies used by dentists, dental laboratories, and dental colleges. Dental laboratories constructing artificial dentures, bridges, inlays, and other dental restorations on specifications from dentists are classified in industry 8072.

The total value of shipments for establishments classified in the Dental Equipment and Supplies industry amounted to $787 million in 1977, an increase of 92 percent from 1972. The value of shipments of products classified as primary to the industry was $661 million, an increase of 88 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were precious dental metals, for which shipments increased 85 percent, and dental alloys for amalgams, for which shipments increased 372 percent. Value added by manufacture, at $459 million in 1977, was 75 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 16.3 thousand employees, an increase of 31 percent from 1972. The leading States in employment were California, New York, Pennsylvania, and Illinois, accounting for approximately 53 percent of the industry's 1977 employment. These same States were in the forefront for 1972.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3851, OPHTHALMIC GOODS

This industry comprises establishments primarily engaged in the manufacture of ophthalmic frames, lenses, sunglass lenses, and complete non-prescription sunglasses. Establishments primarily engaged in the manufacture of molded glass blanks are classified in industry 3229; and focus lenses, except ophthalmic in industry 3832. Establishments primarily engaged in grinding lenses to prescription are classified in trade industries.

The total value of shipments for establishments classified in the Ophthalmic Goods industry amounted to $972 million in 1977, an increase of 71 percent from 1972. The value of shipments of products classified as primary to the industry was $844 million, an increase of 75 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were plastic ophthalmic focus lenses, for which shipments increased 565 percent, and contact lenses, for which shipments increased 423 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $656 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 30.0 thousand employees, an increase of 12 percent from 1972. The leading States in employment were New York, Massachusetts, Florida, and California, accounting for approximately 62 percent of the industry's 1977 employment. These same States were in the forefront for 1972.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

INDUSTRY 3861, PHOTOGRAPHIC EQUIPMENT AND SUPPLIES

This industry comprises establishments primarily engaged in the manufacture of photographic apparatus, equipment, parts, attachments, and accessories, such as still and motion picture cameras and projection apparatus; photocopy and microfilm equipment; blueprinting and diazotype (white printing) apparatus and equipment; other photographic equipment; sensitized film paper, cloth, and plates; and prepared photographic chemicals for use therewith. Establishments primarily engaged in the manufacture of photographic paper stock (unsensitized), and paper mats, mounts, easels, and folders for photographic use are classified in major group 26; photographic lenses in industry 3832; photographic glass in major group 32; chemicals for technical purposes, not specifically prepared and

packaged for use in photography, in major group 28; and photographic flash, flood, enlarger, and projection lamps in industry 3641.

The total value of shipments for establishments classified in the Photographic Equipment and Supplies industry amounted to $9,934 million in 1977, an increase of 78 percent from 1972. The value of shipments of products classified as primary to the industry was $9,218 million, an increase of 76 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were sensitized photographic film and plates, silver halide type, except X-ray, for which shipments increased 81 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $6,729 million in 1977, was 65 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 111.6 thousand employees, an increase of 18 percent from 1972. The leading States in employment were New York, Colorado, Massachusetts, and Illinois, accounting for approximately 60 percent of the industry's 1977 employment. Data for Colorado and Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of total value of shipments.

INDUSTRY 3873, WATCHES, CLOCKS, AND WATCHCASES

This industry comprises establishments primarily engaged in the manufacture of clocks (including electric), watches, watchcases, mechanisms for clockwork-operated devices, and clock and watch parts. This industry also includes establishments primarily engaged in assembling clocks and watches from purchased movements and cases. Establishments primarily engaged in the manufacture of time clocks are classified in industry 3579, glass crystals in industry 3231, and unbreakable crystals in industry 3079.

The total value of shipments for establishments classified in the Watches, Clocks, and Watchcases industry amounted to $1,598 million in 1977, an increase of 70 percent from 1972. The value of shipments of products classified as primary to the industry was $1,332 million, an increase of 53 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The products accounting for a significant portion of this change were watches with imported movements or modules, for which shipments increased 57 percent. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $686 million in 1977, was 47 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 31.6 thousand employees, an increase of 3 percent from 1972. The leading States in employment were New York, Connecticut, Arkansas, and Illinois, accounting for approximately 25 percent of the industry's 1977 employment. Data for Connecticut and Arkansas have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. There has been some shift in the relative importance of individual States from 1972 when Massachusetts, Connecticut, New York, and Arkansas were in the forefront of the industry's employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3841, SURGICAL AND MEDICAL INSTRUMENTS																
1977 Census--	575	650	237	43.2	490.7	29.2	57.4	260.9	1 212.2	647.0	1 829.4	85.3	(NA)	360.3	88	80
1976 ASM----	(NA)	(NA)	(NA)	42.8	497.3	27.5	53.1	240.7	1 138.0	679.3	1 799.5	59.5	522.7	397.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	40.1	430.3	26.1	49.1	206.4	954.3	567.4	1 517.4	83.8	475.2	368.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	39.8	393.4	27.7	52.0	199.8	874.6	520.8	1 354.8	79.8	366.3	338.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	36.4	305.9	26.1	51.0	173.4	715.6	378.8	1 079.5	60.4	330.7	223.7	(NA)	(NA)
1972 Census--	449	506	199	34.5	282.4	24.3	48.0	161.1	630.0	347.9	961.8	42.0	328.2	203.6	90	82
1971 ASM----	(NA)	(NA)	(NA)	28.3	219.6	20.3	40.4	120.7	520.7	276.2	769.6	26.0	246.9	180.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	25.4	185.1	18.4	36.6	98.8	390.2	220.4	607.9	29.5	219.3	142.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	25.8	178.1	19.0	38.0	105.4	383.5	235.1	605.4	27.6	159.7	132.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	23.7	152.4	17.5	34.9	88.8	338.7	202.8	529.2	17.9	134.9	113.8	(NA)	(NA)
1967 Census--	288	321	138	22.0	139.6	16.4	32.8	83.5	297.4	102.1	475.4	18.5	118.2	101.6	91	69
1966 ASM----	(NA)	(NA)	(NA)	17.6	108.3	13.4	26.8	64.4	228.2	141.5	360.1	13.4	(NA)	76.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	15.4	89.4	11.3	22.5	52.6	188.3	112.0	297.8	10.9	(NA)	59.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	14.7	83.0	11.1	21.9	50.8	165.7	131.8	296.6	6.2	71.4	55.6	(NA)	(NA)
1963 Census--	256	294	117	15.1	83.3	11.5	22.9	52.5	168.6	126.9	284.0	10.5	61.5	54.1	88	74
INDUSTRY 3842, SURGICAL APPLIANCES AND SUPPLIES																
1977 Census--	1 016	1 153	321	53.5	618.8	36.5	69.9	342.4	1 586.4	1 038.9	2 588.2	67.4	(NA)	503.3	87	85
1976 ASM----	(NA)	(NA)	(NA)	52.8	555.4	36.6	68.7	313.5	1 383.4	901.8	2 236.9	76.0	621.8	471.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	54.3	514.6	38.0	68.5	289.1	1 286.6	805.5	2 089.7	73.8	582.5	420.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	50.5	452.7	35.2	66.4	258.6	1 061.7	764.8	1 795.4	56.3	443.7	392.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	46.0	409.5	31.4	61.0	222.4	1 035.6	625.0	1 615.4	41.6	373.9	326.5	(NA)	(NA)
1972 Census--	780	872	256	43.9	365.3	29.8	58.1	197.8	929.0	535.2	1 453.5	47.5	351.8	265.6	79	90
1971 ASM----	(NA)	(NA)	(NA)	40.2	319.4	27.4	51.9	166.4	834.6	448.6	1 273.5	36.4	298.8	235.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	41.2	306.1	28.7	54.1	160.8	770.4	448.5	1 204.9	30.3	301.5	228.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	44.5	308.1	30.8	60.0	172.7	772.5	465.6	1 224.3	32.8	284.5	220.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	40.7	272.9	28.3	55.0	153.1	669.4	392.0	1 049.3	29.5	265.5	184.6	(NA)	(NA)
1967 Census--	755	811	211	35.2	220.3	24.6	48.0	125.7	527.2	324.5	837.9	30.5	217.3	154.0	80	86
1966 ASM----	(NA)	(NA)	(NA)	34.7	206.3	23.7	47.4	106.9	467.4	314.4	768.9	24.7	(NA)	143.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	31.6	193.3	21.3	42.3	101.6	418.3	268.9	680.4	17.3	(NA)	114.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	28.4	168.4	19.0	38.3	88.8	379.6	245.9	622.6	18.4	173.2	102.5	(NA)	(NA)
1963 Census--	525	704	162	28.3	161.8	19.0	37.9	85.8	370.3	230.1	596.7	17.8	163.2	100.2	80	90
INDUSTRY 3843, DENTAL EQUIPMENT AND SUPPLIES																
1977 Census--	507	550	119	16.3	203.3	10.7	21.2	104.8	458.6	339.7	786.7	16.2	(NA)	174.1	92	98
1976 ASM----	(NA)	(NA)	(NA)	15.3	195.4	10.9	21.6	107.8	435.2	310.9	729.3	17.3	149.4	177.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.6	165.3	10.1	20.0	89.0	380.0	298.4	671.6	12.5	134.3	160.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	15.1	154.0	11.2	21.1	87.1	380.4	287.6	649.0	14.9	125.2	159.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	13.5	124.5	9.2	17.6	64.4	282.1	200.3	467.6	14.5	110.3	107.7	(NA)	(NA)
1972 Census--	385	429	107	12.4	110.0	8.5	16.6	58.3	262.3	159.8	409.2	14.9	98.9	91.9	93	94
1971 ASM----	(NA)	(NA)	(NA)	10.5	83.4	7.5	14.4	47.7	173.4	108.8	284.4	9.4	73.7	63.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	11.0	82.8	7.8	15.3	45.1	171.0	103.1	274.2	8.3	71.1	65.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	10.7	74.1	7.4	14.2	40.8	172.0	102.9	265.0	8.7	68.7	63.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	10.6	71.9	7.6	14.8	40.2	160.4	98.4	251.0	8.1	62.8	54.0	(NA)	(NA)
1967 Census--	314	334	76	10.2	67.4	7.3	14.3	38.3	141.0	82.8	220.5	4.5	54.0	45.9	94	94
1966 ASM----	(NA)	(NA)	(NA)	9.5	60.6	6.6	13.3	35.4	130.1	74.0	205.6	5.0	(NA)	41.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	9.1	55.6	6.6	12.6	32.7	124.6	70.1	194.0	4.5	(NA)	39.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	8.1	48.1	5.7	11.5	28.2	105.4	61.7	164.6	3.2	40.8	35.9	(NA)	(NA)
1963 Census--	267	316	66	8.0	46.1	5.8	11.2	27.1	95.9	52.8	147.8	2.7	38.0	33.7	84	92
INDUSTRY 3851, OPHTHALMIC GOODS																
1977 Census--	593	634	155	30.0	314.1	21.7	43.1	188.4	656.2	331.1	971.8	44.1	(NA)	244.9	92	98
1976 ASM----	(NA)	(NA)	(NA)	28.1	275.9	21.0	40.2	169.2	588.4	279.7	851.6	27.6	255.3	190.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	27.0	247.5	20.3	38.7	157.3	477.9	254.5	752.8	14.9	233.0	173.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	28.6	228.8	22.2	43.0	164.3	494.8	240.5	717.3	14.0	199.8	202.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	26.7	203.8	21.2	41.4	132.0	459.3	202.5	627.1	24.8	197.9	170.5	(NA)	(NA)
1972 Census--	445	499	125	26.6	183.4	20.5	39.8	129.9	416.3	180.1	568.3	17.4	197.3	160.0	87	96
1971 ASM----	(NA)	(NA)	(NA)	28.0	183.3	21.3	40.4	124.4	401.7	176.6	565.2	15.7	183.9	146.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	27.1	170.7	21.2	40.8	120.6	359.7	161.2	518.8	21.3	173.9	126.2	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	24.5	152.9	19.7	39.1	112.7	334.9	151.5	473.9	13.2	155.4	113.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	24.0	142.4	19.3	38.0	101.7	298.6	135.3	434.3	9.3	153.9	97.8	(NA)	(NA)
1967 Census--	432	461	142	25.6	143.4	20.8	41.1	103.4	286.4	144.1	426.0	14.5	148.9	97.8	88	95
1966 ASM----	(NA)	(NA)	(NA)	23.0	121.4	18.9	38.2	89.7	237.0	116.8	346.8	12.6	(NA)	86.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	22.4	112.8	18.2	37.0	81.3	215.6	106.6	318.2	10.0	(NA)	77.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	21.0	104.5	17.0	34.6	76.2	197.0	104.1	300.3	8.9	103.6	74.4	(NA)	(NA)
1963 Census--	211	229	109	20.3	96.4	16.5	32.8	69.0	177.9	96.6	272.7	9.1	99.6	72.7	86	92

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

(For explanation of terms, see appendix A)

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (mil. dol.)	Production workers: Number (1,000)	Production workers: Hours (mil.)	Production workers: Wages (mil. dol.)	Value added by manufacture (mil. dol.)	Cost of materials (mil. dol.)	Value of shipments (mil. dol.)	Expenditures and assets: New capital expenditures (mil. dol.)	Expenditures and assets: Gross value of fixed assets (mil. dol.)	End-of-year inventories (mil. dol.)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
	INDUSTRY 3861, PHOTOGRAPHIC EQUIPMENT AND SUPPLIES															
1977 Census..	700	778	263	111.6	1 897.9	61.6	119.2	885.1	6 728.8	3 236.0	9 933.2	322.7	(NA)	1 501.1	95	95
1976 ASM.....	(NA)	(NA)	(NA)	107.3	1 732.0	58.3	112.8	780.0	6 077.4	2 914.7	8 844.5	347.0	3 635.6	1 429.2	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	99.9	1 441.4	53.8	101.6	649.9	5 177.0	2 443.4	7 627.0	387.8	3 166.3	1 199.9	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	108.6	1 429.4	62.1	120.3	677.3	5 075.0	2 565.5	7 493.4	410.6	2 887.3	1 238.7	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	101.1	1 235.4	58.4	110.7	594.9	4 735.6	1 821.3	6 435.0	278.5	2 554.4	939.2	(NA)	(NA)
1972 Census..	554	627	225	96.0	1 119.7	56.0	107.0	545.8	4 087.9	1,487.9	5 623.9	202.9	2 353.0	751.1	95	96
1971 ASM.....	(NA)	(NA)	(NA)	88.2	953.9	49.3	87.7	436.3	3 488.0	1 233.6	4 709.7	187.0	(NA)	671.2	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	92.5	952.5	51.4	96.9	430.5	3 187.3	1 267.9	4 413.5	219.8	1 792.6	659.6	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	95.9	937.0	54.7	106.7	432.9	2 873.5	1 472.1	4 375.3	192.2	1 257.7	544.3	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	91.5	832.9	52.4	102.8	395.1	2 810.5	1 214.1	4 008.7	212.7	1 511.7	560.7	(NA)	(NA)
1967 Census..	505	557	214	94.9	820.2	56.2	112.1	401.3	2 480.7	1 203.3	3 664.5	217.9	1 301.4	568.6	95	97
1966 ASM.....	(NA)	(NA)	(NA)	84.3	710.9	55.3	109.2	377.3	2 282.0	1 099.9	3 285.7	148.4	(NA)	524.9	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	70.5	599.8	45.4	91.9	313.5	1 773.2	825.9	2 552.8	98.9	(NA)	375.2	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	66.6	532.7	41.0	81.8	272.2	1 485.5	631.6	2 091.2	46.0	882.6	319.8	(NA)	(NA)
1963 Census..	499	538	187	64.9	498.8	39.2	77.8	251.6	1 270.1	580.5	1 851.2	78.6	804.2	289.5	95	97
	INDUSTRY 3873, WATCHES, CLOCKS, AND WATCHCASES															
1977 Census..	283	302	112	31.5	316.6	24.0	46.3	199.4	684.5	912.4	1 594.7	23.2	(NA)	271.7	91	95
1976 ASM.....	(NA)	(NA)	(NA)	33.1	317.6	25.8	49.5	204.8	743.4	785.1	1 512.8	26.1	217.0	278.4	(NA)	(NA)
1975 ASM.....	(NA)	(NA)	(NA)	32.1	287.3	24.6	47.1	178.7	580.3	613.3	1 212.5	16.1	201.6	254.4	(NA)	(NA)
1974 ASM.....	(NA)	(NA)	(NA)	35.3	292.2	28.2	53.5	193.4	585.6	577.2	1 153.7	17.0	183.1	280.1	(NA)	(NA)
1973 ASM.....	(NA)	(NA)	(NA)	33.5	259.4	27.1	52.3	174.6	546.1	538.1	1 053.3	21.6	179.2	235.9	(NA)	(NA)
1972 Census..	184	202	99	30.8	230.3	24.7	47.6	153.8	466.0	482.0	937.2	18.8	160.2	187.1	92	95
1971 ASM.....	(NA)	(NA)	(NA)	32.3	224.4	24.6	47.8	142.3	464.5	442.7	906.8	16.8	170.3	195.0	(NA)	(NA)
1970 ASM.....	(NA)	(NA)	(NA)	35.0	231.9	26.4	50.2	141.4	469.0	429.7	888.8	17.9	[5]166.5	194.9	(NA)	(NA)
1969 ASM.....	(NA)	(NA)	(NA)	39.1	243.6	30.3	59.2	157.9	523.6	470.6	998.7	12.2	[5]140.6	183.4	(NA)	(NA)
1968 ASM.....	(NA)	(NA)	(NA)	38.9	229.8	30.7	59.7	153.1	473.8	470.4	946.5	11.1	135.5	182.9	(NA)	(NA)
1967 Census..	198	223	103	35.2	209.0	27.6	55.2	139.5	392.9	417.5	802.1	10.4	128.0	185.1	84	91
1966 ASM.....	(NA)	(NA)	(NA)	34.0	193.9	26.4	52.3	130.5	401.3	352.1	727.5	10.7	(NA)	163.0	(NA)	(NA)
1965 ASM.....	(NA)	(NA)	(NA)	32.0	175.2	25.0	49.8	116.8	362.9	310.7	656.8	[6]7.8	(NA)	126.4	(NA)	(NA)
1964 ASM.....	(NA)	(NA)	(NA)	30.0	161.9	23.1	46.2	107.6	332.0	267.3	586.7	[6]7.4	102.1	109.3	(NA)	(NA)
1963 Census..	201	220	98	29.7	157.6	23.3	45.7	102.8	307.3	243.7	544.8	9.2	96.2	95.4	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1] In annual survey of manufactures (ASM) years, data are estimates based on representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2] For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3] Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4] Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5] Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6] Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7] Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8] Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9] Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10] Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3841, SURGICAL AND MEDICAL INSTRUMENTS											
1977 Census--	11 364	(NA)	67	1 965	4.54	35	62	(NA)	28 077	40	21.13
1976 ASM----	11 619	12 212	64	1 930	4.53	37	65	29	26 588	43	21.43
1975 ASM----	10 730	11 850	65	1 881	4.20	37	65	31	23 798	45	19.44
1974 ASM----	9 884	9 204	70	1 877	3.84	38	67	27	21 975	44	16.81
1973 ASM----	8 404	9 085	69	1 954	3.40	35	63	31	19 659	43	14.81
1972 Census--	8 185	9 513	70	1 975	3.35	36	65	34	18 260	44	13.12
1971 ASM----	7 759	8 724	71	1 990	2.98	35	64	32	18 399	42	12.88
1970 ASM----	7 287	8 633	72	1 989	2.69	36	66	36	15 362	47	10.66
1969 ASM----	6 903	6 189	73	2 000	2.77	38	68	26	14 864	46	10.09
1968 ASM----	6 430	5 691	73	1 994	2.54	38	67	25	14 291	44	9.70
1967 Census--	6 345	5 372	74	2 000	2.54	21	50	24	13 518	46	9.06
1966 ASM----	6 153	(NA)	76	2 000	2.40	39	69	(NA)	12 965	47	8.51
1965 ASM----	5 805	(NA)	73	1 991	2.33	37	67	(NA)	12 227	47	8.36
1964 ASM----	5 646	4 857	75	1 972	2.31	44	72	24	11 272	50	7.56
1963 Census--	5 516	4 072	76	1 991	2.29	44	74	21	11 165	49	7.36
INDUSTRY 3842, SURGICAL APPLIANCES AND SUPPLIES											
1977 Census--	11 564	(NA)	68	1 913	4.90	40	64	(NA)	29 648	39	22.70
1976 ASM----	10 518	11 776	69	1 877	4.56	40	65	27	26 200	40	20.13
1975 ASM----	9 476	10 727	69	1 802	4.22	38	63	27	23 694	39	18.78
1974 ASM----	8 964	8 786	69	1 886	3.89	42	67	24	21 023	42	15.98
1973 ASM----	8 902	8 128	68	1 942	3.64	38	64	23	22 513	39	16.97
1972 Census--	8 321	8 013	67	1 949	3.40	36	61	24	21 161	39	15.98
1971 ASM----	7 945	7 432	68	1 894	3.20	35	60	23	20 761	38	16.08
1970 ASM----	7 429	7 317	69	1 885	2.97	37	62	25	18 699	39	14.24
1969 ASM----	6 923	6 393	69	1 948	2.87	38	63	23	17 359	39	12.87
1968 ASM----	6 705	6 523	69	1 943	2.78	37	63	25	16 447	40	12.17
1967 Census--	6 258	6 173	69	1 951	2.61	38	65	25	14 977	41	10.98
1966 ASM----	5 945	(NA)	68	2 000	2.25	40	67	(NA)	13 469	44	9.86
1965 ASM----	6 117	(NA)	67	1 985	2.40	39	67	(NA)	13 237	46	9.88
1964 ASM----	5 929	6 098	66	2 015	2.31	39	66	27	13 366	44	9.91
1963 Census--	5 717	5 766	67	1 994	2.26	38	65	27	13 084	43	9.77
INDUSTRY 3843, DENTAL EQUIPMENT AND SUPPLIES											
1977 Census--	12 449	(NA)	65	1 988	4.93	43	69	(NA)	28 075	44	21.59
1976 ASM----	12 771	9 764	71	1 981	4.99	42	69	20	28 444	44	20.14
1975 ASM----	11 321	9 198	69	1 980	4.45	44	69	19	26 027	43	19.00
1974 ASM----	10 198	8 291	74	1 883	4.12	44	68	19	25 192	40	18.02
1973 ASM----	9 222	8 170	68	1 913	3.65	42	69	23	20 896	44	16.02
1972 Census--	8 870	7 975	68	1 952	3.51	39	65	24	21 153	41	15.80
1971 ASM----	7 942	7 019	71	1 920	3.31	38	67	25	16 514	48	12.04
1970 ASM----	7 527	6 463	70	1 961	2.94	37	67	25	15 545	48	11.17
1969 ASM----	6 925	6 420	69	1 918	2.87	38	66	25	16 074	43	12.11
1968 ASM----	6 783	5 924	71	1 947	2.71	39	67	25	15 132	44	10.83
1967 Census--	6 607	5 294	71	1 958	2.67	37	68	24	13 823	47	9.86
1966 ASM----	6 378	(NA)	69	2 015	2.66	35	65	(NA)	13 694	46	9.78
1965 ASM----	6 109	(NA)	72	1 909	2.59	36	64	(NA)	13 692	44	9.88
1964 ASM----	5 938	5 037	70	2 017	2.45	37	66	24	13 012	45	9.16
1963 Census--	5 762	4 750	72	1 931	2.41	35	66	25	11 987	48	8.56
INDUSTRY 3851, OPHTHALMIC GOODS											
1977 Census--	10 484	(NA)	72	1 986	4.37	34	66	(NA)	21 907	47	15.22
1976 ASM----	9 818	9 085	74	1 914	4.20	32	65	29	20 939	46	14.63
1975 ASM----	9 166	8 629	75	1 906	4.06	33	66	30	17 700	51	12.34
1974 ASM----	8 000	6 986	77	1 936	3.82	33	65	27	17 300	46	11.50
1973 ASM----	7 632	7 411	79	1 952	3.18	32	64	31	17 202	44	11.09
1972 Census--	6 894	7 417	77	1 941	3.26	31	63	34	15 650	44	10.45
1971 ASM----	6 546	6 567	76	1 896	3.07	31	63	32	14 346	45	9.94
1970 ASM----	6 298	6 416	78	1 924	2.95	31	63	33	13 273	47	8.81
1969 ASM----	6 240	6 342	80	1 984	2.88	31	64	32	13 669	45	8.56
1968 ASM----	5 933	6 412	80	1 968	2.67	31	63	35	12 441	47	7.85
1967 Census--	5 601	5 816	81	1 975	2.51	33	67	34	11 187	50	6.96
1966 ASM----	5 278	(NA)	82	2 021	2.34	33	68	(NA)	10 304	51	6.20
1965 ASM----	5 035	(NA)	81	2 032	2.19	33	68	(NA)	9 625	52	5.82
1964 ASM----	4 976	4 933	80	2 035	2.20	34	69	34	9 380	53	5.69
1963 Census--	4 748	4 906	81	1 987	2.10	35	70	36	8 763	54	5.42

See footnotes at end of table.

Table 1b. **Selected Operating Ratios for the Industry: 1977 and Earlier Years**—Con.

(For explanation of terms, see appendix A)

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3861, PHOTOGRAPHIC EQUIPMENT AND SUPPLIES										
1977 Census..	17 010	(NA)	55	1 934	7.42	32	51	(NA)	60 304	28	56.44
1976 ASM.....	16 141	33 882	54	1 934	6.91	32	52	41	56 639	28	53.87
1975 ASM.....	14 428	31 694	53	1 888	6.39	32	50	41	51 821	27	50.95
1974 ASM.....	13 162	26 586	57	1 937	5.63	34	53	38	46 731	28	42.18
1973 ASM.....	12 219	25 266	57	1 895	5.37	28	47	39	46 840	26	42.77
1972 Census..	11 663	24 510	58	1 910	5.10	26	46	41	42 582	27	38.20
1971 ASM.....	10 815	(NA)	55	1 778	4.97	26	46	-	39 546	27	39.77
1970 ASM.....	10 297	19 379	55	1 885	4.44	28	50	40	34 457	29	32.89
1969 ASM.....	9 770	13 114	57	1 950	4.05	33	55	28	29 963	32	26.93
1968 ASM.....	9 102	16 521	57	1 961	3.84	30	51	37	30 715	29	27.33
1967 Census..	8 642	13 713	59	1 994	3.57	32	55	35	26 140	33	22.12
1966 ASM.....	8 432	(NA)	65	1 974	3.45	33	55	(NA)	27 069	31	20.89
1965 ASM.....	8 507	(NA)	64	2 024	3.41	32	55	(NA)	25 151	33	19.29
1964 ASM.....	7 998	13 252	61	1 995	3.32	30	55	42	22 304	35	18.16
1963 Census..	7 685	12 391	60	1 984	3.23	31	58	43	19 570	39	16.32
	INDUSTRY 3873, WATCHES, CLOCKS, AND WATCHCASES										
1977 Census..	10 047	(NA)	76	1 927	4.30	57	77	(NA)	21 719	46	14.79
1976 ASM.....	9 595	6 555	77	1 918	4.13	51	72	14	22 459	42	15.01
1975 ASM.....	8 950	6 280	76	1 914	3.79	50	74	16	18 077	49	12.32
1974 ASM.....	8 277	5 186	79	1 897	3.61	50	75	15	16 589	49	10.94
1973 ASM.....	7 743	5 349	80	1 929	3.33	51	75	17	16 301	47	10.44
1972 Census..	7 477	5 201	80	1 927	3.23	51	76	17	15 129	49	9.78
1971 ASM.....	6 947	5 270	77	1 935	2.98	49	74	19	14 381	48	9.72
1970 ASM.....	6 626	4 760	75	1 898	2.82	48	74	19	13 400	49	9.36
1969 ASM.....	6 230	3 600	77	1 954	2.67	47	72	14	13 391	47	8.84
1968 ASM.....	5 907	3 480	79	1 945	2.56	50	74	14	12 180	49	7.94
1967 Census..	5 938	3 640	78	2 000	2.53	52	78	16	11 162	53	7.12
1966 ASM.....	8 079	(NA)	(NA)	1 981	2.50	48	75	(NA)	16 721	48	7.67
1965 ASM.....	5 475	(NA)	78	1 992	2.35	47	74	(NA)	11 341	48	7.29
1964 ASM.....	5 397	3 400	77	2 000	2.33	46	73	17	11 067	49	7.19
1963 Census..	5 306	3 240	78	1 961	2.25	45	74	18	10 347	51	6.72

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3841, SURGICAL AND MEDICAL INSTRUMENTS														
United States	-	**650**	**237**	**43.2**	**490.7**	**29.2**	**57.4**	**260.9**	**1 212.2**	**647.0**	**1 829.4**	**85.3**	**34.5**	**630.0**
New England Division:														
Vermont	E2	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Massachusetts	E1	48	22	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Rhode Island	-	2	1	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	23	10	1.9	19.7	1.4	3.0	13.3	60.2	27.2	88.2	6.3	1.8	37.1
Middle Atlantic Division:														
New York	-	68	26	4.7	49.7	3.6	7.2	33.0	127.2	62.9	191.7	5.1	4.8	94.8
New Jersey	E1	40	16	3.4	46.7	1.6	3.2	17.0	69.6	60.0	128.7	6.0	4.1	71.6
Pennsylvania	-	36	17	3.8	53.7	2.0	4.0	23.0	117.2	79.0	193.5	5.0	1.3	15.4
East North Central Division:														
Ohio	E2	20	7	0.9	9.2	0.7	1.2	6.2	17.9	20.7	39.0	1.0	(NA)	(D)
Indiana	-	12	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	33.1
Illinois	-	42	18	1.3	15.6	0.9	2.1	8.9	36.7	22.1	56.8	2.0	2.0	22.4
Michigan	-	17	5	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	10	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.8	19.7
West North Central Division:														
Minnesota	E1	25	8	0.7	8.2	0.3	0.6	2.5	18.6	10.4	28.6	1.0	(NA)	(D)
Missouri	-	15	8	1.2	14.1	0.8	1.6	7.8	25.8	19.1	45.7	(D)	(NA)	(D)
Nebraska	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	3	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	E1	5	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	-	5	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	23	6	1.6	16.6	1.2	2.4	10.6	46.2	19.1	65.0	2.4	1.3	21.9
East South Central Division:														
Tennessee	E1	7	2	0.2	2.0	0.2	0.3	1.2	4.6	2.6	6.9	(D)	(NA)	(D)
Alabama	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Oklahoma	E2	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E2	32	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	9	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Utah	-	4	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Oregon	E1	11	7	0.3	3.6	0.2	0.4	2.2	8.6	4.0	12.4	0.4	(NA)	(D)
California	E1	127	39	5.8	69.2	3.7	7.4	31.3	158.8	80.6	234.0	15.3	3.5	70.5
INDUSTRY 3842, SURGICAL APPLIANCES AND SUPPLIES														
United States	-	**1 153**	**321**	**53.5**	**618.8**	**36.5**	**69.9**	**342.4**	**1 586.4**	**1 038.9**	**2 588.2**	**67.4**	**43.9**	**929.0**
New England Division:														
New Hampshire	E1	11	4	0.3	2.5	0.2	0.4	1.4	4.9	5.6	10.7	0.2	(NA)	(NA)
Massachusetts	E1	39	16	1.5	15.7	1.0	1.9	8.0	25.1	17.3	42.0	1.4	(NA)	(D)
Rhode Island	-	14	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	24	13	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	101	24	3.5	40.2	2.3	4.4	20.1	79.9	47.4	131.5	3.1	(NA)	(D)
New Jersey	-	38	19	5.6	84.3	2.8	5.2	36.2	226.7	113.2	343.2	10.4	(NA)	(D)
Pennsylvania	E1	64	17	4.7	56.4	3.1	6.0	30.7	121.8	83.2	194.9	6.6	6.3	107.1
East North Central Division:														
Ohio	-	74	26	2.8	28.5	2.0	3.8	17.7	61.2	47.1	106.6	1.8	1.8	22.4
Indiana	-	26	7	2.0	28.1	1.3	2.6	13.6	91.7	50.2	136.0	(D)	1.3	38.1
Illinois	-	53	15	4.6	62.2	3.0	5.7	34.5	188.5	115.3	293.3	4.8	5.1	159.8
Michigan	-	39	17	1.4	13.9	1.0	1.8	8.0	29.2	39.4	67.6	(D)	0.8	13.7
Wisconsin	-	25	8	1.1	11.0	0.8	1.7	7.5	17.7	22.5	40.3	0.5	0.3	4.2
West North Central Division:														
Minnesota	-	26	12	2.0	16.7	1.7	2.8	12.0	33.0	25.0	57.1	1.7	0.7	15.5
Missouri	-	24	9	0.8	7.7	0.6	1.1	4.8	15.3	14.6	30.0	0.6	(NA)	(D)
South Dakota	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	-	8	3	0.2	1.8	0.1	0.2	1.1	3.4	2.8	6.3	(D)	(NA)	(NA)
Kansas	-	5	3	0.3	3.0	0.2	0.3	1.6	4.2	5.2	9.3	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	E2	16	2	0.2	2.0	0.2	0.3	1.4	3.0	6.2	9.3	0.1	(NA)	(NA)
North Carolina	-	22	6	0.6	4.7	0.5	1.0	3.2	11.9	9.1	19.0	0.1	(NA)	(D)
South Carolina	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	22	9	1.6	15.3	1.3	2.5	10.6	36.2	47.2	83.8	1.2	0.5	5.4
Florida	-	55	8	1.0	11.7	0.6	1.2	5.1	27.5	11.7	38.6	0.8	0.4	6.6
East South Central Division:														
Kentucky	-	14	3	0.8	7.8	0.7	1.3	6.2	17.7	21.9	38.7	(D)	(NA)	(D)
Tennessee	-	21	6	0.8	8.5	0.5	1.0	4.7	30.4	13.8	41.4	1.0	(NA)	(D)
Alabama	-	16	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3842, SURGICAL APPLIANCES AND SUPPLIES—Con.														
West South Central Division:														
Arkansas	E1	13	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oklahoma	–	11	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	–	63	15	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Arizona	–	10	3	0.3	2.4	0.2	0.3	1.2	14.9	13.3	27.7	0.1	(NA)	(NA)
Utah	E1	15	3	0.3	2.5	0.2	0.4	1.2	4.4	3.1	7.3	(D)	(NA)	(NA)
Pacific Division:														
California	E1	183	46	6.7	81.2	4.2	8.5	41.5	161.8	94.1	253.1	9.6	4.1	70.1
INDUSTRY 3843, DENTAL EQUIPMENT AND SUPPLIES														
United States	–	**550**	**119**	**16.3**	**203.3**	**10.7**	**21.2**	**104.8**	**458.6**	**339.7**	**786.7**	**16.2**	**12.4**	**262.3**
New England Division:														
Massachusetts	–	11	3	0.2	2.9	0.1	0.3	1.3	4.1	1.6	5.5	0.3	(NA)	(NA)
Connecticut	E0	6	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	–	73	16	2.1	30.2	1.2	2.4	13.7	66.3	91.5	158.2	2.1	(NA)	(D)
New Jersey	–	33	9	1.5	19.7	0.9	1.8	11.3	53.0	39.5	92.5	1.3	(NA)	(D)
Pennsylvania	–	25	10	2.1	23.6	1.4	2.7	13.1	45.1	27.7	71.3	1.1	1.8	35.7
East North Central Division:														
Ohio	–	16	6	0.6	7.0	0.4	0.7	3.5	12.0	9.1	21.4	0.8	(NA)	(D)
Indiana	–	9	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.2
Illinois	–	44	12	1.6	23.2	1.0	1.9	9.8	49.5	29.7	77.4	1.4	1.2	26.5
Michigan	–	8	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	–	7	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Missouri	–	12	5	0.2	2.0	0.1	0.2	1.0	4.7	1.3	6.0	(D)	(NA)	(NA)
Kansas	–	2	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Delaware	–	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	–	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	–	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Alabama	–	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Colorado	–	10	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Oregon	–	13	2	0.5	7.3	0.4	0.6	3.9	18.5	7.9	24.4	(D)	(NA)	(D)
California	–	139	22	2.8	29.6	1.9	4.0	15.7	78.2	41.1	116.5	2.3	2.0	42.4
INDUSTRY 3851, OPHTHALMIC GOODS														
United States	–	**634**	**155**	**30.0**	**314.1**	**21.7**	**43.1**	**188.4**	**656.2**	**331.1**	**971.8**	**44.1**	**26.6**	**416.3**
New England Division:														
Vermont	–	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	–	33	14	6.7	79.9	4.7	9.2	45.8	141.5	77.6	214.8	9.8	6.9	133.6
Rhode Island	–	10	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.3	18.4
Connecticut	–	6	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	–	84	34	7.7	90.8	4.9	10.1	48.2	200.9	74.8	268.5	8.8	8.4	113.8
New Jersey	–	29	9	1.1	11.4	0.9	1.8	6.8	22.2	10.5	32.0	0.4	(NA)	(D)
Pennsylvania	–	31	2	0.6	7.7	0.5	1.0	5.1	15.5	5.9	21.2	0.8	(NA)	(D)
East North Central Division:														
Ohio	E2	33	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	4.2
Illinois	E5	36	7	1.0	10.8	0.7	1.3	5.6	20.5	13.4	32.9	(D)	0.8	12.1
Michigan	E1	29	7	0.3	3.0	0.2	0.4	1.8	6.3	3.3	9.7	0.3	0.2	3.2
West North Central Division:														
Minnesota	E1	10	7	1.0	8.8	0.8	1.5	6.0	22.5	7.3	29.0	0.5	0.5	8.7
Missouri	E1	12	5	0.7	4.9	0.6	1.1	3.5	8.5	6.6	14.7	0.4	(NA)	(D)
South Atlantic Division:														
Maryland	–	10	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	–	8	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	1.0
South Carolina	–	1	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	–	36	12	2.2	20.2	1.8	3.7	14.1	39.2	22.4	64.1	8.5	1.2	18.9
West South Central Division:														
Texas	E1	28	6	0.5	4.3	0.4	0.8	3.0	12.9	6.1	18.9	0.6	0.2	2.6
Pacific Division:														
California	E1	88	18	2.1	20.0	1.5	2.9	12.0	46.7	22.0	67.8	3.5	0.6	8.1

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3861, PHOTOGRAPHIC EQUIPMENT AND SUPPLIES														
United States	-	**779**	**263**	**111.6**	**1 898.1**	**61.6**	**119.2**	**885.2**	**6 728.9**	**3 236.5**	**9 933.9**	**322.7**	**96.0**	**4 087.9**
New England Division:														
Massachusetts	-	31	11	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Rhode Island	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	13	6	0.4	5.4	0.3	0.6	3.4	22.0	17.0	39.4	0.4	(NA)	(D)
Middle Atlantic Division:														
New York	-	133	49	60.8	1 129.7	31.2	59.4	504.3	4 356.3	1 472.8	5 833.2	(D)	(NA)	(D)
New Jersey	-	62	25	5.1	64.7	2.9	4.9	30.8	174.4	157.9	332.1	6.6	(NA)	(D)
Pennsylvania	-	30	7	1.2	19.1	0.8	1.5	10.1	101.4	40.4	141.4	2.4	(NA)	(D)
East North Central Division:														
Ohio	-	21	7	0.6	8.3	0.5	0.9	5.2	20.2	14.1	33.9	0.7	(NA)	(D)
Indiana	-	12	5	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	44.5
Illinois	-	90	34	7.7	109.7	4.6	9.1	54.0	172.0	160.2	324.2	9.3	9.5	185.2
Michigan	E1	18	8	0.5	5.6	0.3	0.6	3.4	16.6	10.9	26.1	(D)	0.3	5.0
Wisconsin	-	12	7	1.1	11.8	0.8	1.4	5.8	28.9	26.1	52.7	0.8	(NA)	(D)
West North Central Division:														
Minnesota	-	15	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	E4	12	3	0.2	2.3	0.1	0.2	1.3	6.8	4.4	10.9	0.3	(NA)	(D)
Nebraska	-	6	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kansas	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Maryland	E1	10	3	0.2	2.8	0.1	0.2	1.4	4.5	4.3	8.8	(D)	0.2	5.2
Virginia	E1	11	3	0.3	4.6	0.1	0.2	1.5	9.6	5.9	15.4	0.3	(NA)	(D)
West Virginia	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	-	20	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.6	3.8
East South Central Division:														
Kentucky	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Oklahoma	-	4	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Texas	E2	21	7	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	12	3	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	E3	10	3	0.2	2.6	0.1	0.1	1.2	5.1	3.0	8.0	0.2	(NA)	(NA)
Oregon	-	9	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	E2	171	41	4.5	62.9	2.9	5.2	34.2	163.3	105.7	267.1	8.3	(NA)	(D)
INDUSTRY 3873, WATCHES, CLOCKS, AND WATCHCASES														
United States	-	**303**	**113**	**31.6**	**317.4**	**24.1**	**46.4**	**199.9**	**685.6**	**914.4**	**1 597.8**	**24.2**	**30.8**	**466.0**
New England Division:														
Massachusetts	E1	14	4	1.0	12.0	0.8	1.5	8.9	23.3	10.8	35.2	0.3	(NA)	(D)
Rhode Island	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	12	8	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4.5	81.9
Middle Atlantic Division:														
New York	-	71	30	4.8	58.2	3.4	7.2	32.5	110.3	152.4	255.6	(D)	5.7	96.2
New Jersey	E1	21	10	0.9	8.8	0.7	1.2	5.3	18.2	17.0	34.5	1.4	1.0	11.3
Pennsylvania	-	12	8	1.1	11.9	0.8	1.4	6.3	16.5	24.2	43.6	(D)	0.7	9.2
East North Central Division:														
Indiana	-	4	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	18	7	3.5	36.6	2.6	5.2	23.0	63.8	81.2	139.4	(D)	3.0	43.7
Michigan	-	16	8	1.3	13.6	1.0	1.8	8.6	35.7	35.6	70.3	(D)	0.5	8.1
Wisconsin	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Kansas	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	7	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	5	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Arkansas	-	1	1	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas	-	7	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E2	52	7	0.7	6.5	0.5	0.9	3.9	18.4	11.0	36.2	0.2	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Surgical and medical instruments (SIC 3841)	Surgical appliances and supplies (SIC 3842)	Dental equipment and supplies (SIC 3843)	Ophthalmic goods (SIC 3851)	Photographic equipment and supplies (SIC 3861)	Watches, clocks, and watchcases (SIC 3873)
Primary product specialization ratio[1]	percent	88	87	92	92	95	91
Coverage ratio[2]	do	80	85	98	98	95	95
All establishments	number	650	1 153	550	634	779	303
With 1 to 19 employees	do	413	832	431	479	516	190
With 20 to 99 employees	do	147	213	85	98	170	58
With 100 employees or more	do	90	108	34	57	93	55
All employees, average for year	1,000	43.2	53.5	16.3	30.0	111.6	31.6
Payroll for year, all employees	mil. dol.	490.7	618.8	203.3	314.1	1 898.1	317.4
Production workers:							
Average for year	1,000	29.2	36.5	10.7	21.7	61.6	24.1
March	do	29.0	36.0	10.7	21.1	61.3	23.6
May	do	29.0	36.4	10.7	21.3	61.7	24.0
August	do	29.4	36.9	10.7	21.8	62.2	24.4
November	do	29.3	36.8	10.5	22.5	61.2	24.2
Hours	millions	57.4	69.9	21.2	43.1	119.2	46.4
January to March	do	14.2	17.3	5.2	10.6	30.0	11.4
April to June	do	14.5	17.9	5.4	10.9	30.1	12.2
July to September	do	14.0	17.2	5.3	10.5	29.3	11.4
October to December	do	14.6	17.6	5.4	11.2	29.9	11.4
Wages	mil. dol.	260.9	342.4	104.8	188.4	885.2	199.9
Cost of materials, etc.	do	647.0	1 038.9	339.7	331.1	3 236.5	914.4
Materials, parts, containers, etc., consumed	do	537.9	854.7	284.6	262.2	2 857.5	803.6
Resales	do	69.2	131.8	44.3	47.8	242.1	95.8
Fuels consumed	do	4.7	8.7	1.8	7.3	56.5	2.7
Purchased electric energy	do	14.5	16.4	4.0	9.7	38.1	7.7
Contract work	do	20.7	27.4	5.0	4.1	42.3	4.5
Value of shipments, including resales	do	1 829.4	2 588.2	786.7	971.8	9 933.9	1 597.8
Value of resales	do	81.2	201.7	64.5	67.2	420.8	199.1
Value added by manufacture	do	1 212.2	1 586.4	458.6	656.2	6 728.9	685.6
Manufacturers' inventories:							
Beginning of year	do	314.4	454.0	164.3	224.6	1 424.9	271.4
Finished products	do	104.3	179.4	60.3	100.4	300.7	87.2
Work in process	do	100.0	123.6	57.5	80.6	584.5	118.5
Materials, supplies, fuel, etc.	do	110.1	150.9	46.5	43.6	539.8	65.7
End of year	do	360.3	503.3	174.1	244.9	1 501.3	272.1
Finished products	do	130.7	205.3	63.0	125.3	276.5	101.5
Work in process	do	103.4	134.9	66.3	71.2	640.2	106.3
Materials, supplies, fuel, etc.	do	126.2	163.1	44.8	48.3	584.6	64.3
Capital expenditures for plant and equipment	do	89.5	70.2	17.4	48.6	330.2	25.0
New capital expenditures	do	85.3	67.4	16.2	44.1	322.7	24.2
New buildings and other structures	do	21.3	16.0	3.7	13.2	69.2	5.6
New machinery and equipment	do	64.0	51.3	12.5	30.9	253.5	18.6
Used capital expenditures	do	4.2	2.8	1.1	4.4	7.4	0.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Surgical and medical instruments (SIC 3841)		Surgical appliances and supplies (SIC 3842)		Dental equipment and supplies (SIC 3843)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	3.8	6	4.4	12	1.2	12
Response coverage ratio[2] (percent)	76	(X)	61	(X)	64	(X)
Machinery	8.5	8	7.9	12	(1.4)	17
Response coverage ratio[2] (percent)	71	(X)	63	(X)	69	(X)
Cost of purchased communication services	(10.7)	42	8.2	10	4.1	14
Response coverage ratio[2] (percent)	81	(X)	87	(X)	55	(X)
Rental payments	(17.0)	20	19.7	10	5.6	9
Buildings and other structures	(9.3)	26	(12.4)	16	(2.9)	16
Machinery and equipment	7.7	12	7.1	6	2.7	12
Supplemental labor costs	76.9	2	99.2	34.2	34.5	6
Legal costs	36.9	2	48.3	1	15.3	3
Voluntary costs	40.0	4	51.0	4	19.2	10
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	159.3	8	237.7	5	54.1	13
New capital expenditures	17.0	8	(17.5)	21	(4.3)	19
Used capital expenditures	2.0	1	(6.0)	90	-	(X)
Retirements	1.3	10	4.4	7	4.2	13
End of year	177.1	7	256.8	5	54.2	13
Machinery and equipment:						
Beginning of year	268.6	5	353.7	4	81.1	8
New capital expenditures	59.6	2	58.3	11	13.3	10
Automobiles, trucks, etc., for highway use[3]	(1.6)	(A)	(0.9)	(A)	(0.4)	(A)
Computers and peripheral data processing equipment[3]	(2.4)	(A)	(0.5)	(A)	(0.6)	(A)
All other[3]	(45.5)	(44)	(49.8)	40	(10.2)	(A)
New machinery and equipment, n.s.k.[4]	(10.1)	(A)	(7.1)	(A)	(2.1)	(A)
Used capital expenditures	2.1	6	1.8	12	(1.0)	31
Retirements	13.4	5	24.5	9	(3.5)	15
End of year	316.9	4	389.3	3	92.0	8
Total gross value of depreciable assets:						
Beginning of year	427.9	5	591.7	4	135.2	9
New capital expenditures	76.6	3	75.8	13	17.5	11
Used capital expenditures	4.2	3	(7.8)	69	(1.1)	30
Retirements	14.6	5	28.7	8	7.7	7
End of year	494.0	4	646.6	3	146.1	9
Depreciation charges during 1977	36.6	3	44.8	4	9.6	8
Buildings and other structures	7.4	7	10.6	5	2.1	11
Machinery and equipment	29.2	2	34.2	4	7.5	8

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Ophthalmic goods (SIC 3851)		Photographic equipment and supplies (SIC 3861)		Watches, clocks, and watchcases (SIC 3873)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	3.2	2	10.4	2	0.9	10
Response coverage ratio[2] (percent)	79	(X)	75	(X)	46	(X)
Machinery	7.8	6	15.7	5	3.1	10
Response coverage ratio[2] (percent)	83	(X)	75	(X)	46	(X)
Cost of purchased communication services	3.9	10	18.6	12	(3.9)	20
Response coverage ratio[2] (percent)	80	(X)	90	(X)	66	(X)
Rental payments	8.7	12	46.6	9	11.5	6
Buildings and other structures	4.1	6	20.6	9	5.2	10
Machinery and equipment	(4.6)	25	26.0	12	6.4	9
Supplemental labor costs	51.1	2	384.4	1	59.8	3
Legal costs	24.9	1	115.5	1	26.4	1
Voluntary costs	26.2	3	268.8	1	33.5	4
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	73.9	3	1,212.3	1	61.2	4
New capital expenditures	9.9	3	70.6	5	(4.7)	86
Used capital expenditures	0.1	1	(4.3)	39	0.3	1
Retirements	0.5	4	22.8	4	5.9	1
End of year	83.4	3	1,264.4	1	60.4	8
Machinery and equipment:						
Beginning of year	194.1	3	2,480.6	1	148.0	4
New capital expenditures	22.1	3	251.6	2	(17.1)	90
Automobiles, trucks, etc., for highway use[3]	(0.3)	(A)	(3.9)	(A)	(0.2)	(A)
Computers and peripheral data processing equipment[3]	(0.4)	(A)	(15.9)	(A)	(Z)	(A)
All other[3]	(18.4)	(A)	214.7	9	(15.9)	(A)
New machinery and equipment, n.s.k.[4]	(3.0)	(A)	(17.1)	(A)	(1.0)	(A)
Used capital expenditures	4.3	3	3.9	1	(0.7)	25
Retirements	(10.1)	16	58.5	4	7.7	5
End of year	210.4	3	2,677.6	1	158.1	3
Total gross value of depreciable assets:						
Beginning of year	268.0	3	3,692.9	1	209.2	3
New capital expenditures	32.0	3	322.2	3	21.9	3
Used capital expenditures	4.4	3	(8.1)	21	(1.0)	17
Retirements	(10.6)	15	81.3	3	13.6	5
End of year	293.8	3	3,941.9	1	218.5	3
Depreciation charges during 1977	19.0	3	275.5	1	18.1	7
Buildings and other structures	3.5	3	55.0	1	2.5	6
Machinery and equipment	15.5	3	220.5	1	15.6	8

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3841, SURGICAL AND MEDICAL INSTRUMENTS												
Total	-	**650**	**43.2**	**490.7**	**29.2**	**57.4**	**260.9**	**1 212.2**	**647.0**	**1 829.4**	**85.3**	**360.3**
Establishments with an average of—												
1 to 4 employees	E8	244	0.4	4.5	0.3	0.5	2.1	7.8	6.2	16.0	0.7	3.5
5 to 9 employees	E8	87	0.6	7.0	0.4	0.7	3.4	14.9	9.5	24.3	0.8	5.4
10 to 19 employees	E6	81	1.1	13.4	0.7	1.4	6.5	29.8	18.7	48.5	2.2	10.0
20 to 49 employees	E1	90	3.0	34.4	2.0	4.0	18.5	76.0	47.4	123.4	4.3	22 3
50 to 99 employees	-	57	4.1	46.3	2.7	5.7	24.7	104.9	61.6	162.9	9.0	38.1
100 to 249 employees	-	50	7.6	82.7	5.0	9.5	43.9	200.1	126.3	319.4	11.1	73.0
250 to 499 employees	-	22	8.3	95.6	6.1	12.3	54.3	238.0	114.5	347.8	18.7	67.3
500 to 999 employees	-	13	9.5	103.1	7.1	14.0	63.1	309.4	148.8	449.1	19.0	70.2
1,000 to 2,499 employees	-	6	8.7	103.7	5.0	9.4	44.2	231.3	114.1	338.1	19.6	70.4
Covered by administrative records[2]	E0	325	1.8	22.2	1.2	2.3	10.8	48.4	30.5	78.9	2.7	17.2
INDUSTRY 3842, SURGICAL APPLIANCES AND SUPPLIES												
Total	-	**1 153**	**53.5**	**618.8**	**36.5**	**69.9**	**342.4**	**1 586.4**	**1 038.9**	**2 588.2**	**67.4**	**503.3**
Establishments with an average of—												
1 to 4 employees	E7	452	0.7	8.3	0.6	1.0	4.6	16.5	12.6	31.9	1.1	6.2
5 to 9 employees	E5	220	1.4	16.8	1.0	1.9	9.4	35.7	25.5	60.8	1.6	10.9
10 to 19 employees	E1	160	2.3	25.4	1.6	2.9	14.3	51.1	30.2	80.6	2.4	11.4
20 to 49 employees	E1	139	4.3	41.8	3.2	5.9	24.5	91.3	68.5	159.5	6.4	25.0
50 to 99 employees	-	74	5.2	51.7	3.8	7.0	29.8	119.2	93.1	209.7	5.8	39.3
100 to 249 employees	-	61	9.5	94.6	7.1	13.3	57.8	243.4	185.4	418.9	7.5	81.3
250 to 499 employees	-	25	9.1	94.8	6.5	12.4	56.5	216.2	135.2	344.2	12.7	66.1
500 to 999 employees	-	15	9.6	122.5	6.2	12.8	65.1	317.7	217.7	523.0	14.9	120.5
1,000 to 2,499 employees	-	7	11.4	162.9	6.5	12.7	80.3	495.2	270.9	759.6	15.0	142.5
Covered by administrative records[2]	E0	497	1.6	17.6	1.2	2.1	9.9	38.7	26.2	64.8	2.3	13.4
INDUSTRY 3843, DENTAL EQUIPMENT AND SUPPLIES												
Total	-	**550**	**16.3**	**203.3**	**10.7**	**21.2**	**104.8**	**458.6**	**339.7**	**786.7**	**16.2**	**174.1**
Establishments with an average of—												
1 to 4 employees	E7	289	0.4	5.0	0.4	0.6	2.8	10.0	7.3	18.0	0.4	4.1
5 to 9 employees	E1	69	0.5	5.4	0.3	0.6	3.0	11.0	9.1	19.9	0.5	3.3
10 to 19 employees	E1	73	1.1	11.6	0.7	1.4	6.2	25.4	23.6	47.9	0.9	9.0
20 to 49 employees	-	60	1.8	20.5	1.2	2.5	11.3	43.4	39.5	81.4	1.2	12.3
50 to 99 employees	-	25	1.7	19.7	1.2	2.2	10.0	42.0	21.3	62.1	1.7	13.2
100 to 249 employees	-	17	2.9	37.0	1.7	3.3	16.6	91.6	110.4	199.4	3.5	40.7
250 to 499 employees	-	13	4.6	62.9	3.0	6.0	34.5	143.8	88.6	229.2	6.2	50.7
500 to 999 employees	-	3	(3.4)	(41.2)	(2.1)	(4.6)	(20.4)	(91.3)	(39.8)	(128.9)	(1.8)	(40.9)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	239	0.4	5.3	0.4	0.6	2.8	11.0	7.6	18.6	0.5	4.4
INDUSTRY 3851, OPHTHALMIC GOODS												
Total	-	**634**	**30.0**	**314.1**	**21.7**	**43.1**	**188.4**	**656.2**	**331.1**	**971.8**	**44.1**	**244.9**
Establishments with an average of—												
1 to 4 employees	E9	296	0.5	5.2	0.5	0.7	3.2	11.4	5.4	17.0	0.6	3.7
5 to 9 employees	E6	101	0.6	7.0	0.5	0.9	4.2	15.0	7.1	22.0	0.9	4.6
10 to 19 employees	E1	82	1.1	10.6	0.8	1.5	6.7	19.6	10.9	30.2	3.0	5.1
20 to 49 employees	E1	72	2.2	22.0	1.6	3.0	12.6	49.1	26.5	74.4	3.5	12.9
50 to 99 employees	E2	26	1.9	15.7	1.4	2.7	9.8	31.0	20.3	51.5	1.5	12.0
100 to 249 employees	-	31	4.9	45.9	3.7	7.4	28.3	105.0	65.7	168.2	8.0	37.9
250 to 499 employees	-	19	7.0	68.5	5.5	11.2	45.3	158.7	100.4	250.4	11.3	71.8
500 to 999 employees	-	5	(11.7)	(139.2)	(7.7)	(15.5)	(78.3)	(266.5)	(94.8)	(358.2)	(15.3)	(96.8)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	315	0.9	9.5	0.7	1.3	5.8	21.0	9.8	30.8	1.0	6.9
INDUSTRY 3861, PHOTOGRAPHIC EQUIPMENT AND SUPPLIES												
Total	-	**779**	**111.6**	**1 898.1**	**61.6**	**119.2**	**885.2**	**6 728.9**	**3 236.5**	**9 933.9**	**322.7**	**1 501.3**
Establishments with an average of—												
1 to 4 employees	E8	308	0.5	7.7	0.4	0.5	3.6	23.1	14.3	38.9	1.7	5.8
5 to 9 employees	E6	134	0.9	13.4	0.5	0.9	6.3	41.5	24.0	65.5	2.1	8.9
10 to 19 employees	E7	73	1.0	14.7	0.6	1.1	6.9	40.0	23.6	63.9	2.0	9.2
20 to 49 employees	E1	115	3.7	49.2	2.3	4.3	24.2	146.5	103.1	247.8	6.7	39 0
50 to 99 employees	-	55	3.8	46.9	2.5	4.8	26.1	140.0	105.9	236.6	7.0	50.2
100 to 249 employees	-	46	6.6	84.1	4.2	8.0	46.7	270.4	230.7	504.2	10.6	74.5
250 to 499 employees	-	18	6.4	78.5	4.0	7.4	43.8	237.0	184.6	414.6	6 3	88 7
500 to 999 employees	-	15	9.5	120.1	5.9	11.6	66.6	362.1	286.2	647.4	21.3	199.1
1,000 to 2,499 employees	-	8	11.4	175.7	7.1	13.9	93.7	504.6	406.5	912.2	27.4	165.3
2,500 employees or more	-	7	67.8	1 307.6	34.2	66.6	567.2	4 963.8	1 857.6	6 802 8	237.5	860 7
Covered by administrative records[2]	E0	390	1.6	25.8	1.0	1.7	12.0	78.1	37.3	115.4	4.1	16.5

See footnotes at end of table.

Table 4. **Industry Statistics by Employment Size of Establishment: 1977**—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3873, WATCHES, CLOCKS, AND WATCHCASES												
Total	-	**303**	**31.6**	**317.4**	**24.1**	**46.4**	**199.9**	**685.6**	**914.4**	**1 597.8**	**24.2**	**272.1**
Establishments with an average of—												
1 to 4 employees	E8	119	0.2	1.7	0.2	0.3	1.1	1.6	4.1	8.1	0.1	1.4
5 to 9 employees	E9	31	0.2	1.8	0.2	0.3	1.1	4.0	4.2	8.3	0.1	1.5
10 to 19 employees	E5	40	0.6	5.7	0.4	0.8	3.6	11.7	16.7	28.8	0.4	5.4
20 to 49 employees	E1	38	1.2	11.2	0.9	2.2	7.1	25.8	26.6	52.9	0.7	10.1
50 to 99 employees	-	20	1.4	14.4	1.0	1.9	8.8	29.9	31.4	60.2	1.6	12.8
100 to 249 employees	-	24	3.6	34.1	2.7	4.9	20.2	66.4	70.7	146.4	1.6	37.0
250 to 499 employees	-	15	5.4	52.3	4.1	8.1	33.8	114.6	129.4	243.4	6.8	48.8
500 to 999 employees	-	11	8.1	75.0	6.5	12.9	54.5	134.0	117.8	252.2	5.3	58.1
1,000 to 2,499 employees	-	3	(11.1)	(121.2)	(8.1)	(15.0)	(69.6)	(297.7)	(513.4)	(797.5)	(7.6)	(97.1)
2,500 employees or more	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	152	0.8	7.2	0.6	1.1	4.7	15.9	17.1	33.0	0.5	5.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3841	**Surgical and medical instruments:**										
	Entire industry	650	43.2	490.7	29.2	57.4	260.9	1 212.2	647.0	1 829.4	85.3
	Establishments with 75 percent specialization or more	508	34.3	378.2	23.9	47.0	211.2	972.5	497.2	1 440.1	70.2
38411	Surgical and medical instruments and apparatus:										
	Establishments with this product class primary	183	34.3	373.9	23.9	47.0	206.8	949.3	461.1	1 382.9	73.1
	Establishments with 75 percent specialization or more in class	157	28.0	303.1	19.6	38.9	172.0	800.8	387.0	1 161.2	61.1
38412	Hospital furniture, except beds and chairs:										
	Establishments with this product class primary	34	5.0	69.9	2.8	5.5	31.8	172.9	120.6	289.9	6.2
	Establishments with 75 percent specialization or more in class	24	1.7	18.7	1.2	2.4	12.7	46.5	29.0	75.3	1.4
3842	**Surgical appliances and supplies:**										
	Entire industry	1 153	53.5	618.8	36.5	69.9	342.4	1 586.4	1 038.9	2 588.2	67.4
	Establishments with 75 percent specialization or more	1 092	43.7	492.2	30.1	57.3	274.3	1 200.3	797.7	1 977.5	51.2
38421	Surgical appliances and supplies:										
	Establishments with this product class primary	372	35.5	428.0	23.5	45.8	230.5	1 170.8	747.0	1 891.9	47.4
	Establishments with 75 percent specialization or more in class	334	30.0	355.9	19.8	38.7	191.4	898.0	570.5	1 451.5	36.4
38423	Personal industrial safety devices:										
	Establishments with this product class primary	92	11.5	121.5	8.2	15.5	71.5	273.6	192.6	452.2	12.5
	Establishments with 75 percent specialization or more in class	77	6.8	64.0	5.2	9.4	40.6	147.6	111.5	256.4	7.0
38424	Hearing aids, electronic:										
	Establishments with this product class primary	15	2.2	23.2	1.5	2.7	14.0	41.6	29.2	70.9	1.3
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3843	**Dental equipment and supplies:**										
	Entire industry	550	16.3	203.3	10.7	21.2	104.8	458.6	339.7	786.7	16.2
	Establishments with 75 percent specialization or more	530	14.3	174.4	9.4	18.5	88.4	392.2	279.8	658.5	13.8
3851	**Ophthalmic goods:**										
	Entire industry	634	30.0	314.1	21.7	43.1	188.4	656.2	331.1	971.8	44.1
	Establishments with 75 percent specialization or more	621	28.3	297.6	20.4	40.6	176.5	626.2	293.8	901.9	41.1
38511	Ophthalmic fronts and temples:										
	Establishments with this product class primary	39	4.9	48.5	3.8	7.3	30.3	106.4	55.9	154.5	2.7
	Establishments with 75 percent specialization or more in class	34	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38513	Other ophthalmic goods:										
	Establishments with this product class primary	46	5.5	57.3	4.0	8.0	34.0	134.8	93.8	231.9	5.6
	Establishments with 75 percent specialization or more in class	39	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38514	Glass ophthalmic focus lenses:										
	Establishments with this product class primary	38	7.8	82.2	6.1	11.9	55.3	122.1	80.0	204.6	13.0
	Establishments with 75 percent specialization or more in class	21	1.7	14.9	1.5	2.7	11.0	35.5	17.6	53.2	0.6
38515	Plastic ophthalmic focus lenses:										
	Establishments with this product class primary	19	2.1	17.2	1.8	3.5	11.3	47.0	16.4	58.7	5.5
	Establishments with 75 percent specialization or more in class	12	2.0	16.5	1.7	3.4	10.8	45.3	15.0	55.6	5.4
38516	Contact lenses:										
	Establishments with this product class primary	45	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	42	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3861	**Photographic equipment and supplies:**										
	Entire industry	779	111.6	1 898.1	61.6	119.2	885.2	6 728.9	3 236.5	9 933.9	322.7
	Establishments with 75 percent specialization or more	739	105.1	1 816.9	57.4	111.0	840.9	6 480.6	3 078.4	9 523.8	313.6
38611	Still picture equipment:										
	Establishments with this product class primary	70	26.6	415.1	16.7	32.3	214.4	884.8	475.1	1 325.8	59.3
	Establishments with 75 percent specialization or more in class	50	9.0	115.0	6.3	12.6	68.5	283.9	204.9	480.4	(D)
38612	Photocopying equipment:										
	Establishments with this product class primary	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38613	Motion picture equipment:										
	Establishments with this product class primary	33	5.6	79.9	3.5	7.0	37.8	116.2	84.6	191.2	5.5
	Establishments with 75 percent specialization or more in class	24	1.3	16.6	0.9	1.8	9.3	37.8	23.6	60.0	(D)
38614	Microfilming, blueprinting, and whiteprinting equipment:										
	Establishments with this product class primary	21	3.5	43.1	2.4	4.4	26.6	141.1	92.7	237.1	2.5
	Establishments with 75 percent specialization or more in class	18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38615	Sensitized film and plates, silver halide type:										
	Establishments with this product class primary	28	40.4	795.3	20.5	40.2	360.7	2 532.4	1 022.6	3 559.2	(D)
	Establishments with 75 percent specialization or more in class	21	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38616	Sensitized paper and cloth, silver halide type:										
	Establishments with this product class primary	6	0.8	10.1	0.5	0.9	5.6	27.6	50.7	80.4	0.4
	Establishments with 75 percent specialization or more in class	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38617	Other sensitized film, paper, and cloth:										
	Establishments with this product class primary	49	5.1	66.6	3.4	7.2	41.5	248.1	271.5	519.9	10.5
	Establishments with 75 percent specialization or more in class	41	3.5	46.2	2.4	5.0	29.3	161.1	210.2	369.8	4.5
38618	Prepared photographic chemicals:										
	Establishments with this product class primary	26	1.3	17.8	0.6	1.0	6.2	100.1	53.0	151.3	2.6
	Establishments with 75 percent specialization or more in class	23	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38619	X-ray film:										
	Establishments with this product class primary	5	6.4	100.2	3.6	7.1	50.5	348.7	376.2	738.7	24.1
	Establishments with 75 percent specialization or more in class	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

See footnotes at end of table.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3873	**Watches, clocks, and watchcases:**										
	Entire industry	303	31.6	317.4	24.1	46.4	199.9	685.6	914.4	1 597.8	24.2
	Establishments with 75 percent specialization or more	283	27.2	274.1	20.4	39.4	169.4	610.8	825.2	1 432.2	20.1
38731	Clocks, timing mechanisms, and clock movements:										
	Establishments with this product class primary	49	13.8	127.4	11.6	22.6	93.3	260.9	235.2	494.1	14.4
	Establishments with 75 percent specialization or more in class	37	7.8	66.7	6.5	12.9	48.5	147.1	130.5	274.9	8.9
38734	Watches with imported movements or modules:										
	Establishments with this product class primary	15	4.4	55.3	2.4	5.0	24.6	107.4	170.1	276.1	1.2
	Establishments with 75 percent specialization or more in class	15	4.4	55.3	2.4	5.0	24.6	107.4	170.1	276.1	1.2
38735	Watches with domestic movements or modules:										
	Establishments with this product class primary	22	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Establishments with 75 percent specialization or more in class	15	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
38737	Watchcases and parts for watchcases:										
	Establishments with this product class primary	19	2.3	22.9	1.9	3.8	17.0	35.3	27.3	61.3	0.7
	Establishments with 75 percent specialization or more in class	19	2.3	22.9	1.9	3.8	17.0	35.3	27.3	61.3	0.7

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipment			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3841	Surgical and medical instruments.....1977..	1,829.4	1,513.2	207.3	108.9	88	1,891.3	1,513.2	378.1	80
	1972..	961.8	802.9	85.2	73.6	90	984.2	802.9	181.3	82
	1967..	475.4	375.4	38.1	61.9	91	542.9	375.4	167.5	69
3842	Surgical appliances and supplies.....1977..	2,588.2	2,063.0	303.2	222.0	87	2,413.0	2,063.0	350.0	85
	1972..	1,453.5	1,027.6	266.7	159.2	79	1,142.1	1,027.6	114.5	90
	1967..	837.9	593.7	150.2	94.0	80	691.3	593.7	97.6	86
3843	Dental equipment and supplies.....1977..	786.7	645.2	58.9	82.6	92	660.7	645.2	15.5	98
	1972..	409.2	331.3	26.2	51.7	93	352.3	331.3	21.0	94
	1967..	220.5	190.2	11.9	18.4	94	201.8	190.2	11.6	94
3851	Ophthalmic goods.....1977..	971.8	827.9	67.5	76.4	92	844.3	827.9	16.4	98
	1972..	568.3	465.0	71.5	31.8	87	483.5	465.0	18.5	96
	1967..	426.0	360.1	50.9	15.0	88	377.5	360.1	17.4	95
3861	Photographic equipment and supplies.....1977..	9,933.9	8,779.3	470.3	684.3	95	9,217.5	8,779.3	438.2	95
	1972..	5,623.9	5,046.9	255.4	321.6	95	5,255.4	5,046.9	208.5	96
	1967..	3,664.5	3,047.9	145.3	471.3	95	3,138.0	3,047.9	90.1	97
3873	Watches, clocks, and watchcases.....1977..	1,597.8	1,261.5	117.6	218.7	91	1,332.0	1,261.5	70.5	95
	1972..	937.2	825.1	75.2	36.9	92	871.1	825.1	46.0	95
	1967..	802.1	642.3	120.2	39.6	84	708.3	642.3	66.0	91

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Surgical and medical instruments (SIC 3841)	Surgical appliances and supplies (SIC 3842)	Dental equipment and supplies (SIC 3843)	Ophthalmic goods (SIC 3851)	Photographic equipment and supplies (SIC 3861)	Watches, clocks, and watchcases (SIC 3873)	Other industries
	Total	(X)	1,829.4	2,588.2	786.7	971.8	9,933.9	1,597.8	(X)
	Primary products	(X)	1,513.2	2,063.0	645.2	827.9	8,779.3	1,261.5	(X)
	Secondary products	(X)	207.3	303.2	58.9	67.5	470.3	117.6	(X)
	Miscellaneous receipts	(X)	108.9	222.0	82.6	76.4	684.3	218.7	(X)
3841-	Surgical and medical instruments	1,891.3	1,513.2	58.0	8.9	(D)	(D)	-	305.8
38411	Surgical and medical instruments and apparatus	1,506.7	1,212.1	(D)	(D)	(D)	(D)	-	232.8
38412	Hospital furniture, excluding beds and chairs	206.7	145.4	(D)	(D)	-	-	-	50.7
38410	Surgical and medical instruments, n.s.k.	177.9	155.6	-	-	-	-	-	22.3
3842-	Surgical appliances and supplies	2,413.0	123.2	2,063.0	2.1	(D)	(D)	-	206.4
38421	Surgical appliances and supplies	1,773.0	122.3	1,483.6	2.1	(D)	(D)	-	164.2
38423	Personal industrial safety devices	403.1	(D)	349.2	-	(D)	-	-	35.6
38424	Hearing aids, electronic	58.1	-	(D)	-	-	-	-	(D)
38420	Surgical appliances and supplies, n.s.k.	178.8	(D)	(D)	-	-	-	-	(D)
38430	Dental instruments, equipment, and supplies	660.7	3.2	5.0	645.2	-	-	-	7.4
3851-	Ophthalmic goods	844.3	-	(D)	-	827.9	4.8	-	(D)
38511	Ophthalmic fronts and temples	154.2	-	(D)	-	(D)	-	-	-
38513	Ophthalmic goods, n.e.c.	259.3	-	(D)	-	248.7	(D)	-	(D)
38514	Glass ophthalmic focus lenses	132.6	-	-	-	(D)	(D)	-	-
38515	Plastic ophthalmic focus lenses	73.8	-	-	-	(D)	(D)	-	-
38516	Contact lenses	117.7	-	-	-	117.7	-	-	-
38510	Ophthalmic goods, n.s.k.	106.7	-	-	-	104.6	-	-	2.0
3861-	Photographic equipment and supplies	9,217.5	-	-	-	-	8,779.3	(D)	D
38611	Still picture equipment	925.8	-	-	-	-	874.0	(D)	D
38612	Photocopying equipment	(D)	-	-	-	-	(D)	-	(D)
38613	Motion picture equipment	178.2	-	-	-	-	167.6	-	10.7
38614	Microfilming, blueprinting, whiteprinting equipment	240.2	-	-	-	-	215.0	-	25.2
38615	Sensitized film and plates, silver halide type	2,587.3	-	-	-	-	2,576.4	-	11.0
38616	Sensitized paper and cloth, silver halide type	(D)	-	-	-	-	(D)	-	(D)
38617	Sensitized film, paper, and cloth, n.e.c.	443.1	-	-	-	-	394.2	-	48.9
38618	Prepared photographic chemicals	634.3	-	-	-	-	493.6	-	140.7
38619	X-ray film	515.3	-	-	-	-	(D)	-	(D)
38610	Photographic equipment and supplies, n.s.k.	(D)	-	-	-	-	(D)	(D)	(D)
3873-	Watches, clocks, and watchcases	1,332.0	-	-	-	-	-	1,261.5	70.5
38731	Clocks, timing mechanisms, and clock movements	433.0	-	-	-	-	-	390.9	42.1
38734	Watches with imported movements or modules	300.7	-	-	-	-	-	(D)	(D)
38735	Watches with domestic movements or modules	471.3	-	-	-	-	-	(D)	D
38737	Watchcases and parts for watchcases	67.2	-	-	-	-	-	67.2	-
38730	Watches, clocks, and watchcases, n.s.k.	59.8	-	-	-	-	-	59.2	.6
	Other shipments by 4-digit product group:								
2221-	Weaving mills, manmade fiber and silk	(X)	-	(D)	-	-	-	-	(X)
2295-	Coated fabrics, not rubberized	(X)	-	(D)	-	-	-	-	(X)
2329-	Men's and boy's clothing, n.e.c.	(X)	-	(D)	-	-	-	-	(X)
2511-	Wood household furniture	(X)	-	-	-	-	-	(D)	(X)
2599-	Furniture and fixtures, n.e.c.	(X)	(D)	(D)	(D)	-	-	-	(X)
2621-	Paper mills, except building paper	(X)	-	-	-	-	(D)	-	(X)
2641-	Coated and glazed paper	(X)	-	(D)	-	-	(D)	-	X
2647-	Sanitary paper products	(X)	-	(D)	-	-	-	-	(X)
2649-	Converted paper products, n.e.c.	(X)	-	(D)	-	-	(D)	-	(X)
2819-	Industrial inorganic chemicals, n.e.c.	(X)	-	(D)	-	-	(D)	-	(X)
2821-	Plastics materials and resins	(X)	-	-	-	-	(D)	-	(X)
2834-	Pharmaceutical preparations	(X)	-	(D)	(D)	-	-	-	(X)
2842-	Polishes and sanitation goods	(X)	-	-	-	(D)	-	-	(X)
2844-	Toilet preparations	(X)	(D)	(D)	-	-	-	-	(X)
2851-	Paints and allied products	(X)	-	-	-	-	(D)	-	(X)
2865-	Cyclic crudes and intermediates	(X)	-	-	-	-	(D)	-	(X)
2869-	Industrial organic chemicals, n.e.c.	(X)	-	-	D	-	(D)	-	(X)
2879-	Agriculture chemicals, n.e.c.	(X)	(D)	-	-	-	-	-	(X)
2899-	Chemical preparations, n.e.c.	(X)	(D)	(D)	-	-	(D)	-	(X)
3069-	Fabricated rubber products, n.e.c.	(X)	(D)	(D)	(D)	-	-	-	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	(D)	-	59.4	-	(X)
3357-	Nonferrous wire drawing and insulating	(X)	-	(D)	-	-	(D)	-	(X)
3443-	Fabricated plate work (boiler shops)	(X)	(D)	(D)	-	-	-	-	(X)
3483-	Ammunition, except for small arms, n.e.c.	(X)	-	-	-	-	-	(D)	(X)
3532-	Mining machinery	(X)	-	(D)	-	-	-	-	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977 — Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Surgical and medical instruments (SIC 3841)	Surgical appliances and supplies (SIC 3842)	Dental equipment and supplies (SIC 3843)	Ophthalmic goods (SIC 3851)	Photographic equipment and supplies (SIC 3861)	Watches, clocks, and watchcases (SIC 3873)	Other industries
	Other shipments by 4-digit product group--Con.								
3535-	Conveyors and conveying equipment	(X)	(D)	-	-	-	-	-	(X)
3544-	Special dies, tools, jigs, and fixtures	(X)	(D)	1.0	(D)	-	(D)	-	(X)
3555-	Printing trades machinery	(X)	-	-	-	-	(D)	-	(X)
3559-	Special industry machinery, n.e.c.	(X)	-	(D)	-	(D)	(D)	-	(X)
3563-	Air and gas compressors	(X)	(D)	-	-	-	(D)	-	(X)
3564-	Blowers and fans	(X)	-	(D)	-	-	-	-	(X)
3569-	General industrial machinery, n.e.c.	(X)	-	(D)	-	-	-	-	(X)
3573-	Electronic computing equipment	(X)	-	-	-	-	(D)	-	(X)
3579- 3572-	Office machines, n.e.c. and typewriters	(X)	-	-	-	-	(D)	-	(X)
3599-	Machinery, except electrical, n.e.c.	(X)	-	(D)	(D)	-	(D)	(D)	(X)
3621-	Motors and generators	(X)	-	-	-	-	.1	(D)	(X)
3634-	Electric housewares and fans	(X)	-	(D)	-	-	(D)	13.0	(X)
3643-	Current-carrying wiring devices	(X)	-	(D)	-	-	(D)	-	(X)
3644-	Noncurrent-carrying devices	(X)	-	-	-	-	(D)	-	(X)
3646-	Commercial lighting fixtures	(X)	(D)	(D)	-	-	-	-	(X)
3648-	Lighting equipment, n.e.c.	(X)	-	-	-	-	(D)	(D)	(X)
3651-	Radio and TV receiving sets	(X)	-	-	-	-	(D)	-	(X)
3661-	Telephone and telegraph apparatus	(X)	-	-	-	-	(D)	-	(X)
3662-	Radio and TV communication equipment	(X)	(D)	(D)	(D)	-	(D)	(D)	(X)
3674-	Semiconductors and related devices	(X)	-	-	(D)	-	-	(Z)	(X)
3679-	Electronic components, n.e.c.	(X)	(D)	(D)	(D)	-	(D)	(D)	(X)
3692-	Primary batteries, dry and wet	(X)	-	-	-	-	-	(D)	(X)
3693-	X-ray and eletromedical apparatus	(X)	(D)	(D)	(D)	-	(D)	-	(X)
3728-	Aircraft equipment, n.e.c.	(X)	(D)	(D)	-	-	(D)	-	(X)
3769-	Space vehicle equipment, n.e.c.	(X)	-	-	(D)	-	-	-	(X)
3811-	Engineering and scientific instruments	(X)	9.1	(D)	(D)	(D)	(D)	21.1	(X)
3823-	Process control instruments	(X)	(D)	(D)	-	-	(D)	-	(X)
3829-	Measuring and controlling devices, n.e.c.	(X)	(D)	(D)	-	-	(D)	-	(X)
3832-	Optical instrument and lenses	(X)	(D)	(D)	-	(D)	(D)	-	(X)
3911-	Jewelry, precious metal	(X)	-	-	-	-	-	(D)	(X)
3944-	Games, toys, and children's vehicles	(X)	-	-	-	-	(D)	-	(X)
3949-	Sporting and athletic goods, n.e.c.	(X)	-	(D)	-	-	(D)	-	(X)
3952-	Lead pencils and art goods	(X)	-	-	-	-	(D)	-	(X)
3999-	Manufacturing industries, n.e.c.	(X)	(D)	-	-	-	(D)	(D)	(X)
	Miscellaneous receipts:								
93000 00	Contract work	(X)	1.2	1.0	(D)	(Z)	4.7	(D)	(X)
99980 00	Miscellaneous receipts	(X)	(X)	(X)	(X)	(X)	(X)	(D)	(X)
99980 13	Sales of scrap and refuse	(X)	.9	(D)	(D)	(D)	25.1	(X)	(X)
99980 31	Receipts for installation or construction	(X)	(D)	(D)	(D)	(X)	(X)	(X)	(X)
99980 41	Receipts for research and developmental work	(X)	(D)	4.8	(Z)	(D)	(X)	(X)	(X)
99980 61	Receipts for repair work	(X)	(D)	9.9	5.1	(X)	65.4	(X)	(X)
99980 98	Other miscellaneous receipts	(X)	1.7	4.2	.3	6.8	168.3	(X)	(X)
99989 00	Resales	(X)	81.2	201.7	64.5	67.2	420.8	199.1	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3841-	2511 Wood household furniture	(D)
	2599 Furniture and fixtures, n.e.c.	(D)
	2831 Biological products	(D)
	2834 Pharmaceutical preparations	(D)
	3079 Miscellaneous plastic products	(D)
	3693 X-ray apparatus and tubes	(D)
	3811 Engineering and scientific instruments	(D)
	3829 Measuring and controlling devices, n.e.c.	(D)
	3832 Optical instruments and lenses	9.6
3842-	2297 Nonwoven fabrics	(D)
	2641 Paper coating and glazing	10.8
	2643 Bags, except textile bags	(D)
	2647 Sanitary paper products	(D)
	2834 Pharmaceutical preparations	(D)
	2844 Toilet preparations	(D)
	3079 Miscellaneous plastic products	(D)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products--Con.	
3842-	3679 Electronic components, n.e.c.	(D)
	3949 Sporting and athletic goods, n.e.c.	8.3
3861-	2522 Metal office furniture	(D)
	2641 Paper coating and glazing	71.2
	2795 Lithographic platemaking services	(D)
	2821 Plastics materials and resins	(D)
	3579 Office machines, n.e.c.	(D)
	3662 Radio and TV communication equipment	(D)
	3832 Optical instruments and lenses	(D)
3873-	2752 Commercial printing, lithographic	(D)
	3574 Calculating and accounting machines	(D)
	3579 Office machines, n.e.c.	(D)
	3621 Motors and generators	7.4
	3911 Jewelry, precious metal	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SURGICAL AND MEDICAL INSTRUMENTS						
3841- --	Total	.....	(NA)	(X)	1,891.3	(X)	984.2
38411 --	Surgical and medical instruments and apparatus[3]	.....	(NA)	(X)	1,506.7	(X)	778.0
38411 12	Surgical instruments, including suture needles, and eye, ear, nose, and throat instruments	.....	42	(X)	153.5	(X)	54.9
38411 31	Orthopedic instruments, such as bone drills and bone plates, excluding eye, ear, nose, and throat instruments	.....	12	(X)	27.1	(X)	14.2
	Diagnostic apparatus:						
38411 21	Metabolism and blood pressure	.....	5	(X)	12.9		
38411 22	Optical diagnostic	Millions	8	1.2	12.6	(X)	123.4
38411 24	Other	.....	35	(X)	115.3		
	Syringes:						
38411 41	Other than hypodermic	Millions	5	48.1	6.4	[4]	([4])
	Hypodermic:						
38411 45	Uniquely designed for prefilling		4	*123.6	11.2		
38411 46	Other		7	*1,617.9	159.8	(S)	108.8
38411 49	Hypodermic needles	Millions	13	*3,175.3	115.3	(S)	55.5
38411 71	Anesthesia apparatus, instruments, and parts	.....	10	(X)	28.2		
38411 76	Oxygen tents	.....	4	(X)	2.9	(X)	53.9
38411 81	Veterinary instruments	.....	6	(X)	3.1		
38411 82	Blood transfusion and I.V. equipment	.....	18	(X)	130.7		
38411 83	Blood donor kits	.....	2			(X)	[4]367.3
38411 84	Mechanical therapy appliances and parts thereof	.....	15	(X)	40.9		
38411 89	Other surgical and medical instruments	.....	78	(X)	640.5		
38411 00	Surgical and medical instruments, n.s.k.	.....	(NA)	(X)	46.3	(X)	([5])
38412 --	Hospital furniture, excluding beds and chairs[3]	.....	(NA)	(X)	206.7	(X)	130.7
38412 91	Operating room furniture, including tables, cases, cabinets, etc	.....	13	(X)	58.9	(X)	31.0
38412 93	Patient room furniture, including cabinets, overbed tables, desks, dressers, etc., but excluding beds and chairs	.....	22	(X)	63.7	(X)	40.8
38412 96	Other hospital furniture, excluding operating and patient room furniture, beds, and instruments, but including cases, tables, bassinets, chart racks, backrest, etc	.....	29	(X)	82.6	(X)	58.9
38412 00	Hospital furniture, n.s.k	.....	(NA)	(X)	1.5	(X)	([5])
38410 00	Surgical and medical instruments, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	99.0	(X)	59.3
38410 02	Surgical and medical instruments, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	78.9	(X)	16.2
	SURGICAL APPLIANCES AND SUPPLIES						
3842- --	Total	.....	(NA)	(X)	2,413.0	(X)	1,142.1
38421 --	Surgical, orthopedic, and prosthetic appliances and supplies	.....	(NA)	X)	1,773.0	(X)	782.0
38421 11	Orthopedic appliances (braces), including parts	.....	42	(X)	153.6	(X)	24.4
38421 15	Sterilizers (hospital and surgical), excluding dental sterilizers	.....	9	(X)	([6])	(X)	41.1
	Surgical dressings:						
38421 22	Bandages, elastic	Mil. sq. yd.	9	S)	35.9	(S)	12.7
38421 23	Bandages, other, including muslin, plaster of paris, etc., but excluding self-adhering bandages		12	S)	21.5	(S)	13.7
38421 24	Adhesive plaster, medicated and nonmedicated, including self-adhering bandages		8	(X)	143.5	(X)	88.0
38421 26	Gauze (absorbent and packing)		10	(S)	53.8	(S)	([7])
38421 27	Cotton, including cotton balls (sterile and nonsterile)		10	(X)	65.4	(X)	33.9
38421 29	Other surgical dressings, including sponges, compresses, pads, etc		17	(X)	131.4	(X)	[7]105.0
38421 31	Disposable surgical drapes, including O/B and O/R packs		13	(X)	83.1	(S)	([8])
38421 32	Disposable incontinent pads, bed pads, and adult diapers	Mil. sq. yd.	21	(X)	99.1		
	Sterile surgical sutures:						
38421 33	Absorbable	.....	3	(X)	([6])	(X)	65.8
38421 34	Nonabsorbable	.....	4	(X)	([6])	(X)	55.1
38421 35	Artificial limbs (prosthetic), including parts	.....	42	(X)	46.2	(X)	22.2
38421 38	Elastic stockings	.....	9	(X)	21.9	(X)	9.5
38421 41	Elastic braces, suspensories, and other elastic supports	.....	17	(X)	31.3	(X)	24.6
38421 45	Arch supports and other foot appliances	.....	10	(X)	20.8	(X)	6.1
38421 61	Corn remover pads, bunion pads, etc	.....	1	(X)	([6])	(X)	([8])
38421 65	Breathing devices, excluding anesthetic apparatus but including incubators, respirators, resuscitators, inhalators, etc	.....	17	(X)	38.7	(X)	23.6
38421 71	Surgical corsets	1,000 dozen	16	(S)	17.8	150.6	16.4
38421 81	Crutches, canes, and other walking assistance devices	.....	9	(X)	9.3		
38421 82	Splints and trusses	.....	10	(X)	6.0		
38421 83	Wheel chairs	Thousands	7	*274.4	53.2	(X)	[8]216.1
38421 98	Other surgical orthopedic, and prosthetic appliances and supplies	.....	96	(X)	[6]657.7		
38421 00	Surgical, orthopedic, and prosthetic appliances and supplies, n.s.k	.....	(NA)	(X)	82.8	(X)	23.8

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	SURGICAL APPLIANCES AND SUPPLIES--Con.						
38423 --	Personal industrial safety devices		(NA)	(X)	403.1	(X)	226.0
38423 11	Respiratory protection equipment, including gas masks, abrasive masks, canister masks, etc		19	(X)	127.5	(X)	56.5
38423 31	Eye and face protection devices, including face shields, hoods, and welding helmets and masks, but excluding industrial goggles and eye protectors		20	(X)	44.1	(X)	37.8
38423 51	Protective clothing, except shoes		35	(X)	68.4	(X)	48.4
38423 61	First aid, snake bite and burn kits, both household and industrial types		17	(X)	23.6	(X)	10.9
38423 71	Other personal safety devices		41	(X)	119.6	(X)	65.8
38423 00	Personal industrial safety devices, n.s.k.		(NA)	(X)	19.9	(X)	6.6
38424 --	Hearing aids, electronic:						
38424 13	Hearing aids, electronic		16	(X)	58.1	(X)	50.0
38420 00	Surgical appliances and supplies, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	114.0	(X)	53.4
38420 02	Surgical appliances and supplies, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	64.8	(X)	30.7
	DENTAL EQUIPMENT AND SUPPLIES						
3843- --	Total		(X)	(NA)	660.7	(X)	352.3
	Dental metals:						
38430 11	Precious	1,000 troy oz.	17	*649.0	100.9	839.9	54.4
38430 15	Nonprecious	1,000 troy oz.	9	*541.1	6.2	(S)	3.4
38430 21	Dental alloys for amalgams		8	2,563.9	27.4	1,713.6	5.8
	Teeth, excluding dentures:						
38430 31	Porcelain	Millions	7	39.1	15.7	83.4	20.9
38430 35	Other, including resinous and plastic	Millions	8	35.2	13.3		
38430 41	Denture-base materials		11	(X)	9.3	(X)	14.2
38430 42	Dental chairs	Thousands	16	**26.3	40.6	(X)	68.3
38430 43	Instrument delivery systems (dental units)		16	(S)	45.1		
38430 44	Dental hand pieces	Thousands	17	*198.4	32.8		
38430 45	Other dental professional equipment, except X-ray		19	(X)	43.0		
38430 51	Dental laboratory equipment, including furnaces, casting machines, lathes, benches, polishing units, flasks, blowpipes, presses, etc		18	(X)	18.3	(X)	13.4
38430 57	Dental hand instruments (forceps and pliers, brosches, cutting instruments, etc.)		15	(X)	21.2	(X)	21.5
38430 61	Burs, diamond points, abrasive points, wheels, disks, and similar tools for use with hand pieces		12	(X)	18.7	(X)	12.9
38430 72	Dental cements and other non-metallic filling materials		7	(X)	18.1	(X)	38.4
38430 73	Waxes, dental gypsums, and other consumable supplies		15	(X)	39.4		
38430 98	Other dental products including sterilizers, but excluding X-ray equipment		59	(X)	133.6	(X)	54.1
38430 00	Dental equipment and supplies, n.s.k., typically for establishments with 5 employees or more (see note)		(X)	(X)	58.5	(X)	30.9
38430 02	Dental equipment and supplies, n.s.k., typically for establishments with less than 5 employees (see note)		(X)	(X)	18.6	(X)	14.1
	OPHTHALMIC GOODS						
3851- --	Total		(NA)	(X)	844.3	(X)	483.5
38511 --	Ophthalmic fronts and temples		(NA)	(X)	154.2	(X)	111.5
	Fronts, finished (with or without decoration), and temples:						
38511 12	Gold filled fronts (full rimmed, semirimless, or rimless)	Millions	10	**5.3	24.7	7.6	26.9
38511 14	Aluminum and other base metal fronts		9	*1.9	6.7	(S)	3.2
38511 15	Plastic fronts		21	**18.5	54.6	16.6	27.0
38511 16	Combination fronts	Millions	10	*5.9	18.9	2.1	8.2
38511 17	Temples, all types	Million pairs.	21	36.2	42.3	28.2	39.6
38511 00	Ophthalmic fronts and temples, n.s.k.		(NA)	(X)	7.0	(X)	6.6
38514 --	Glass ophthalmic focus lenses		(NA)	(X)	132.6	(X)	[9]100.9
38514 31	Single vision lenses (ground and polished and moulded blanks)	Million pairs.	16	*18.2	41.2	25.6	45.2
	Multifocal lenses:						
38514 41	Bifocals		13	17.8	79.7	13.1	45.4
38514 43	Trifocals and double segments	Million pairs.	4	.4	3.3	.8	5.2
38514 00	Glass ophthalmic focus lenses, n.s.k.		(NA)	(X)	8.4	(X)	[9]5.1
38515 --	Plastic ophthalmic focus lenses		(NA)	(X)	73.8	(X)	[9]11.1
38515 25	Single vision lenses	Million pairs.	14	**10.0	28.3	(S)	7.7
38515 27	Multifocal lenses	Million pairs.	13	*6.6	39.0	.6	3.4
38515 00	Plastic ophthalmic focus lenses, n.s.k.		(NA)	(X)	6.5	(X)	([9])

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	OPHTHALMIC GOODS--Con.						
38516 --	Contact lenses	.....	(NA)	X	117.7	(X)	[9]22.5
38516 12	Conventional (hard)	Million pairs.	10	S	117.7	2.3	22.5
38516 13	Soft	Million pairs.	5				
38516 00	Contact lenses, n.s.k.	.....	(NA)			(X)	(9)
38513 --	Other ophthalmic goods, n.e.c	.....	(NA)	X	259.3	(X)	194.8
38513 21	Centers, oxfords, parts, trims, etc.	.....	4	(X)	1.7	(X)	1.3
38513 31	Ophthalmic spectacles and eyeglasses (frames and mountings of all types when sold with corrective lenses inserted, with or without decoration)	Millions.....	9	(S)	24.7	(S)	7.2
38513 41	Industrial goggles, eye protectors, welding circles and plates, mountings, and parts	.....	13	(X)	48.5	(X)	36.6
38513 51	Sun or glare glasses and sungoggles, ready-made	Millions.....	7	S	130.8	34.9	93.9
38513 91	Nonfocus fashion tinted lenses, plastic and glass	Millions.....	6	S	8.1	(S)	15.9
38513 98	Other ophthalmic goods and accessories (sunglass frames, single readers and magnifiers, holders, gas mask inserts, etc.)	.....	16	X	38.0	(X)	32.8
38513 00	All other ophthalmic goods, n.s.k.	.....	(NA)	(X)	7.5	(X)	7.1
38510 00	Ophthalmic goods, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	75.9	(X)	27.2
38510 02	Ophthalmic goods, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	30.8	(X)	15.5

1977 product code	Product	Unit of measure	1977		
			Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value million dollars
	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES				
3861- --	Total	.....	(NA)	(X)	9,217.5
38611 --	Still picture equipment	.....	(NA)	(X)	925.8
	Still cameras:				
38611 12	Hand-held fixed focus	Thousands.....	6	14,382.0	377.6
38611 14	Hand-held variable focus		5		
38611 21	Process cameras for photoengraving and photolithography		9	(S)	20.0
38611 32	Other still cameras, including view and studio, designed primarily for tripod or stand, excluding photocopying, microfilming, blueprinting, brownprinting, and whiteprinting		9	*57.1	41.5
	Flash units, except built-in:				
38611 41	Electronic (stroboscopic)		8	(S)	12.3
38611 47	Nonelectronic (using disposable flashbulb)		-		
38611 10	Photographic exposure (light) meters, complete, except built-ins		-		
	Projectors, except rear screen viewers:				
	Slide film:				
38611 62	List price less than $80		2	*515.7	68.3
38611 65	List price $80 or more		7		
38611 68	Strip film, including combination slide and strip		8	*94.1	12.9
38611 67	Other, including overhead, opaque, etc		5	*73.1	12.3
	Rear screen viewers:				
38611 63	Slide film		3	66.4	14.0
38611 64	Strip film	Thousands.....	6	80.7	13.3
	Still picture commercial-type finishing equipment:				
	Processing equipment for film:				
38611 71	Black-and-white type	.....	3	(X)	61.0
38611 72	Color type	.....	5		
	Processing equipment for paper:				
38611 74	Black-and-white type	.....	3	(X)	13.9
38611 76	Color type	.....	2		
	Continuous printing machines:				
38611 77	Black-and-white type	.....	-	(X)	-
38611 78	Color type	.....	4	(X)	21.5
38611 82	All other processing equipment, including developing machines and motor-operated print washers and dryers	.....	11	(X)	72.0
38611 81	Enlargers	1,000 heads...	4	(NA)	169.6
38611 98	Other still picture equipment, parts, attachments, and accessories, except lenses sold separately and projection screens	.....	38		
38611 00	Still picture equipment, n.s.k	.....	(NA)	(X)	15.6

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 – Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 measure	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1977--Con.		
3861- --	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES--Con.				
38612 --	Photocopying equipment	.....	(NA)	(X)	[10]3,577.9
	Photocopying equipment, except cameras:				
38612 12	Primarily for producing copies 8 1/2 in x 14 in or smaller	Thousands	12	(S)	(D)
38612 14	Primarily for producing copies larger than 8 1/2 in x 14 in		4		
38612 15	Photocopying cameras sold separately	Thousands	2		
38612 00	Photocopying equipment, n.s.k	.....	(NA)		
38613 --	Motion picture equipment	.....	(NA)	(X)	178.2
	8 mm and 16 mm motion picture equipment:				
	Cameras, except microfilming cameras:				
38613 07	16 mm	Thousands	6	180.2	24.3
38613 15	8 mm		2		
	Projectors:				
38613 27	16 mm, sound and silent		6	77.9	37.7
38613 42	8 mm, sound		4	329.5	48.5
	8 mm, silent:				
38613 41	List price less than $100		-		
38613 44	List price $100 or more		3		
38613 52	Projection screens for motion picture and in/or still projection	Thousands	5	(S)	26.2
38613 74	8 mm and 16 mm motion picture parts, attachments, accessories, and other 8 mm and 16 mm motion picture equipment, including sound recording, but excluding lenses for sale separately and projection screens	.....	12		
	35 mm and over motion picture equipment:				
38613 81	Cameras	Thousands	3	(S)	5.4
38613 85	Projectors	Thousands	4		
38613 98	35 mm and over motion picture parts, attachments, accessories, and other 35 mm and over motion picture equipment, including sound recording and studio equipment, but excluding lenses for sale separately and processing equipment	.....	7	(X)	8.1
38613 61	Motion picture processing equipment, all types, including printing machines, developing machines, and drying machines, excluding motion picture type equipment used for still picture work and interchangeable types	.....	15	(X)	22.1
38613 00	Motion picture equipment, n.s.k	.....	(NA)	(X)	5.9
38614 --	Microfilming, blueprinting, brownprinting, and whiteprinting equipment	.....	(NA)	(X)	240.2
	Microfilming equipment:				
38614 01	Cameras, computer output	Thousands	3	(S)	3.1
38614 02	Cameras, except computer output		3	(D)	([11])
38614 03	Microfilm readers		13	**219.8	42.1
38614 04	Microfilm reader-printers	Thousands	9	(S)	67.8
38614 05	Other microfilm equipment	.....	12	(X)	[11]87.5
38614 23	Blueprinting, brownprinting, and whiteprinting (direct process type) equipment, except cameras	.....	3	(X)	39.7
38614 00	Microfilming, blueprinting, brownprinting, and whiteprinting equipment, n.s.k	.....	(NA)		
38615 --	Sensitized photographic film and plates, silver halide type, except X-ray	.....	(NA)	(X)	2,587.3
	Motion picture black-and-white film, excluding microfilm:				
38615 11	35 mm and over	TSFSM (mm.)[12]	2	(S)	[13]2,205.6
38615 17	Under 35 mm (reported in terms of 16 mm linear feet)		2		
	Motion picture color film:				
38615 32	35 mm and over		2		
38615 37	Under 35 mm (reported in terms of 16 mm linear feet)		5		
	Still picture black-and-white film, except X-ray:				
38615 57	Amateur-type roll film, including roll film in cassettes and cartridges		2		
38615 63	Sheet film, pack film, and long lengths of still picture roll film other than graphic arts film, including rolls more than 25 feet in length or more than 30 mm in width		5		
38615 64	Graphic arts film for lithographic, rotogravure, photoengraving, and silk-screen printing		11		
38615 65	Photographic plates and slides, excluding presensitized printing plates		4	(S)	17.1
	Presensitized printing plates, unexposed:				
38615 73	Metal		3	(S)	143.1
38615 74	Nonmetal, including foil		5		
38615 75	Microfilm		5	291.6	126.0
38615 76	Other black-and-white film		9	152.3	91.4
38615 81	Still picture color film	TSFSM (mm.)[12]	4	([13])	([13])
38615 00	Sensitized photographic film and plates, silver halide type, except X-ray n.s.k	.....	(NA)	(X)	4.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1] Quantity[2]	Value (million dollars)
				1977	
3861- --	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES--Con.				
38616 --	Sensitized photographic paper and cloth, silver halide type	.....	(NA)	(X)	[10]
	Designed for continuous-tone reproduction (photofinishing, portraiture, etc.), roll and sheet film:				
38616 12	Black-and-white type	TSFSM (mm.)[12]	5		
38616 13	Color type		3		
38616 15	Designed for live reproduction, graphic arts, etc., other than photocopy processes and oscillograph recording		5	(S)	(D)
38616 21	Designed for oscillograph and other types of instrumentation recording processes		2		
38616 25	Designed for photocopy processes, including diffusion transfer, dye transfer, etc	TSFSM (mm.)[12]	4		
38616 00	Sensitized photographic paper and cloth, silver halide type, n.s.k	.....	(NA)	(X)	-
38617 --	Sensitized photographic film, paper, and cloth, other than silver halide type	.....	(NA)	(X)	443.1
38617 11	Blueprint type	TSYSM (mm.)[16]	2	(D)	[14]
	Diazo type:				
	Dry:				
38617 12	Microfilm		7	165.6	18.8
38617 14	Full size		11	1,071.5	68.5
	Semi-moist:				
38617 16	Microfilm		3	(S)	32.5
38617 17	Full size	TSYSM (mm.)[16]	3		
38617 18	Diazo paper reproducibles		14	(S)	43.4
38617 19	All other diazo materials		4	*71.3	10.4
38617 21	Brownprinting type		3	8.3	1.5
	Sensitized paper for photocopy processes:				
38617 31	Electrostatic		11	(S)	212.4
38617 32	Heat sensitive		3		
38617 39	Other types, including sensitized film, paper, and cloth, for all other processes	TSYSM (mm.)[16]	6	(S)	39.9
38617 00	Sensitized photographic film, paper, and cloth, other than silver halide type, n.s.k	.....	(NA)	(X)	[14]15.7
38618 --	Prepared photographic chemicals (developers, fixers, toners, and other chemicals specifically prepared and packaged for use in photography)	.....	(NA)	(X)	634.3
38618 12	Office copy toners	.....	18	(X)	266.6
38618 13	Prepared photographic chemicals, except office copy toners	.....	23	(X)	353.9
38618 00	Prepared photographic chemicals, n.s.k	.....	(NA)	(X)	13.8
38619 --	X-ray film	.....	(NA)	(X)	515.3
38619 41	Medical	TSFSM (mm.)[16]	6		
38619 43	Dental	.....	2	951.0	515.3
38619 45	Industrial	.....	4		
38619 00	X-ray film, n.s.k	.....	(NA)		
38610 00	Photographic equipment and supplies, n.s.k., typically for establishments with 20 or more employees (see note)	.....	(NA)	(X)	[10]
38610 02	Photographic equipment and supplies, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	115.4
				1972	
	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES				
3861- --	Total	.....	(NA)	(X)	5,255.4
38611 --	Still picture equipment	.....	(NA)	(X)	616.5
	Still cameras:				
	Hand-type cameras, excluding film, bulbs, batteries, etc.:				
38611 11	Suggested retail list price less than $30	Thousands	NA	9,774.3	120.3
38611 13	Suggested retail list price $30 or more, but less than $80				
	Suggested retail list price $80 or more:		(NA)	3,896.0	122.7
38611 15	Using film or paper, 35 mm or under				
38611 17	Using film or paper, over 35 mm, including sheet and pack film				
	Process cameras for photoengraving and photolithography, including value of stands and attachments when shipped with camera:				
38611 22	Horizontal types, including overhead, all sizes		(NA)	4.8	9.8
38611 24	Vertical types, all sizes				
38611 31	Other still cameras, including view and studio, designed primarily for tripod or stand, but excluding photocopying, microfilming, blueprinting, brown-printing, and whiteprinting		(NA)	(S)	35.7
	Flash units, except built-in:				
	Electronic (stroboscopic):				
38611 42	Portable, battery operated				
38611 45	Studio type		NA	1,165.9	10.5
38611 47	Nonelectronic (using disposable flashbulb)				
38611 10	Photographic exposure meters, complete, except built-ins	Thousands			

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 – Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1972--Con.		
3861- --	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES--Con.				
38611 --	Still picture equipment--Con.				
	Projectors with leases of f/4.0 or faster, suggested list price $25 or more:				
	Slide film:				
38611 61	List price $25 to $79.99	Thousands	(NA)	405.2	15.2
38611 65	List price $80 or more		(NA)	470.8	44.4
38611 68	Strip film, including combination slide and strip		(NA)	108.6	9.5
38611 69	Other, including overhead, opaque, etc	Thousands	(NA)	(S)	20.8
	Still picture commercial-type finishing equipment:				
38611 73	Processing equipment for film		(NA)	(X)	49.2
38611 75	Processing equipment for paper		(NA)	(X)	21.8
38611 79	All other processing equipment, including developing machines, continuous printing machines, and motor-operated print washers and dryers		(NA)	(X)	40.4
38611 81	Enlargers	1,000 heads	(NA)	(S)	5.7
38611 91	Rebuilt still picture equipment				
38611 98	Other still picture equipment, parts, attachments, and accessories, including projectors with lenses not as fast as f/4.0 and/or with suggested retail list price less than $25 and hand viewers, but excluding lenses for sale separately and projection screens		(NA)	(X)	105.3
38611 00	Still picture equipment, n.s.k		(NA)	(X)	5.2
38612 --	Photocopying equipment	Thousands	(NA)	(S)	1,455.1
	Photocopying equipment, primarily for producing copies 11 in x 14 in or smaller:				
	Suggested retail list price:				
38612 11	Less than $100				
38612 13	$100 to $499.99				
38612 16	$500 to $999.99				
38612 18	$1,000 to $1,499.99		(NA)	(S)	[15]1,455.1
38612 19	$1,500 or more				
38612 23	Photocopying equipment, primarily for producing copies larger than 11 in x 14 in	Thousands			
38612 00	Photocopying equipment, n.s.k				
38613 --	Motion picture equipment		(NA)	(X)	191.6
	8 mm and 16 mm motion picture equipment:				
	Cameras, excluding film, bulbs, batteries, etc., in outfits:				
38613 07	16 mm	Thousands	(NA)	537.9	42.8
38613 15	8 mm				
	Projectors with lenses f/2.0 or faster, suggested retail list price $25 or more:				
38613 27	16 mm. sound and silent		(NA)	70.0	29.7
38613 42	8 mm. sound		(NA)	88.1	13.9
	8 mm. silent:				
38613 43	Less than $100		(NA)	383.7	13.7
38613 45	$100 to $174.99		(NA)	293.4	25.4
38613 47	$175 or more				
38613 52	Projection screens for motion picture and/or still projection	Thousands	(NA)	1,073.9	14.9
38613 75	8 mm and 16 mm motion picture parts, attachments, accessories, and other 8 mm and 16 mm motion picture equipment, including sound recording, projectors with lenses not as fast as f/2.0 and/or suggested retail list price less than $25 and hand viewers, but excluding lenses for sale separately and projection screens		(NA)	(X)	10.2
38613 61	Motion picture processing equipment, all types, including printing, developing, and drying machines, but excluding motion picture type equipment used for still picture work and interchangeable types		(NA)	(X)	18.2
	35 mm and over motion picture equipment:				
38613 81	Cameras	Thousands	(NA)	1.7	8.5
38613 85	Projectors	Thousands			
38613 98	35 mm and over motion picture parts, attachments, accessories, and other 35 mm and over motion picture equipment, including sound recording and studio equipment, but excluding lenses for sale separately and processing equipment		(NA)	(X)	6.3
38613 00	Motion picture equipment, n.s.k		(NA)	(X)	8.0
38614 --	Microfilming, blueprinting, brownprinting, and whiteprinting equipment		(NA)	(X)	137.5
38614 11	Microfilming equipment, including microfilm cameras, readers, printers, enlargers, and other special purpose equipment for microfilm use		(NA)	(X)	116.2
38614 21	Blueprinting, brownprinting, and whiteprinting (direct process type) equipment		(NA)	(X)	20.9
38614 00	Micrographic equipment and supplies, n.s.k		(NA)	(X)	.4

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972 — Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
				1972	
	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES--Con.				
38615 --	Sensitized photographic film and plates, silver halide type, except X-ray[15]	TSFSM (mm.)[12]	(NA)	(X)	1,427.6
	Motion picture black-and-white film, excluding microfilm:				
38615 11	35 mm and over				
38615 17	8 mm and 16 mm (reported in terms of 16 mm. linear feet)				
	Motion picture color film:				
38615 32	35 mm and over				
38615 37	8 mm and 16 mm (reported in terms of 16 mm linear feet)				
	Still picture black-and white film, except X-ray film:				
38615 57	Amateur-type roll film		(NA)	1,049.9	593.9
38615 63	Sheet film, pack film, and long lengths of still picture roll film other than graphic arts film (including rolls more than 25 feet in length or more than 30 mm in width)				
38615 64	Graphic arts film for lithographic, rotogravure, photoengraving, and silk screen printing				
38615 65	Photoengraving plates and slides, excluding presensitized printing plates		(NA)	81.8	37.0
38615 72	Presensitized printing plates				
38615 79	Other film (microfilm, aerofilm, etc.)		(NA)	539.3	788.8
38615 81	Still picture color film	TSFSM (mm.)[12]			
38615 00	Sensitized photographic film and plates, silver halide type, n.s.k	.....	(NA)	(X)	7.9
38616 --	Sensitized photographic paper and cloth, silver halide type	.....	(NA)	(X)	376.4
38616 11	Designed for continuous-tone reproduction (photofinishing, portraiture, etc.), roll and sheet form	TSFSM (mm.)[12]			
38616 15	Designed for line reproduction, graphic arts, etc., other than photocopy processes and oscillograph recording				
38616 21	Designed for oscillograph and other types of instrumentation recording processes		(NA)	2,227.2	373.8
38616 25	Designed for photocopy processes, including diffusion transfer, dye transfer, etc	TSFSM (mm.)[12]			
38616 00	Sensitized photographic paper and cloth, silver halide type, n.s.k	.....	(NA)	(X)	2.6
38617 --	Sensitized photographic film, paper and cloth, other than silver halide type	.....	(NA)	(X)	306.2
38617 11	Blueprint type	TSYSM (mm.)[16]	(NA)	28.5	4.9
	Diazo type, including film and plastic sheet:				
	Dry:				
38617 12	Microfilm		(NA)	15.1	9.9
38617 14	Full size		(NA)	487.5	31.1
	Semi-moist:				
38617 16	Microfilm				
38617 17	Full size		(NA)	55.6	10.3
38617 18	Diazo paper reproducibles				
38617 19	All other diazo materials		(NA)	311.2	32.8
38617 21	Brownprinting type				
	Sensitized paper for photocopy processes:				
38617 31	Electrostatic		(NA)	1,181.5	180.1
38617 32	Heat sensitive				
38617 39	Other types, including sensitized paper, film, and cloth for all other processes	TSYSM (mm.)[16]	(NA)	306.2	36.2
38617 00	Sensitized photographic paper and cloth, other than silver halide type, n.s.k	.....	(NA)	(X)	.9
38618 11	Prepared photographic chemicals (developers, fixers, toners, and other chemicals specifically prepared and packaged for use in photography)	.....	(NA)	(X)	286.2
38619 --	X-ray film	TSFSM (mm.)[12]	(NA)	759.9	297.6
38619 41	Medical		(NA)	721.9	264.8
38619 43	Dental				
38619 45	Industrial	TSFSM (mm.)[12]	(NA)	38.0	32.8
38610 00	Photographic equipment and supplies, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	137.4
38610 02	Photographic equipment and supplies, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	23.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments[1]	
				Quantity[2]	Value (million dollars)
			1977		
	WATCHES, CLOCKS, AND WATCHCASES				
3873- --	Total	.....	(NA)	(X)	1,332.0
38731 --	Clocks, timing mechanisms, time switches, and clock movements	.....	(NA)	(X)	433.0
	Clocks having a balance wheel and hairspring, pendulum torsion band oscillator (or other oscillatory device with built-in frequency time base):				
38731 31	Clocks with watch movements (or modules) or with clock movements (or modules) measuring less than 1.77 inches in width	Thousands	2	(NA)	([17])
	Clocks with other than watch movements or modules:				
38731 32	Alarm, excluding clock timers and timing mechanisms		3	[18]9,722.7	[18]53.3
38731 33	Household wall, except alarm		9	304.5	15.4
38731 35	All other household, except alarm, including chime and strike, desk, mantel, etc		10	534.5	55.9
38731 37	Commercial, office, factory, and school		5	3,263.1	26.1
38731 39	Other clocks, complete (street, tower, master, automotive, etc.)		3	([18])	([18])
	Clocks with other bases (those not having a balance wheel and hairspring, pendulum torsion band oscillator or other oscillatory device with built-in frequency time bases):				
38731 41	Clocks with watch movements or modules, or with clock movements or modules measuring less than 1.77 inches in width		1	(NA)	([17])
	Clocks with other than watch movements or modules:				
38731 42	Alarm, excluding clock timers and timing mechanisms		5	8,553.0	29.9
38731 43	Household wall, except alarm		11	7,782.1	60.5
38731 45	All other household, except alarm, including chime and strike, desk, mantel, etc		8	352.3	18.7
38731 47	Commercial, office, factory, and school		7	1,379.5	33.7
38731 49	Other clocks, complete (street, tower, master, automotive, etc.)		3		
38731 61	Clock movements, complete		2	(NA)	([17])
	Timing mechanisms, not for time piece use, excluding time recording, and time stamp machines:				
38731 52	Military		2	(NA)	([17])
38731 53	Household		8	17,127.3	69.8
38731 54	Commercial		7	*2,195.9	19.1
38731 56	Other		8	*2,195.0	16.9
38731 28	Timers and switch clocks with clock or watch movements or modules having dials or displays for telling time of day	Thousands	4	(NA)	[17]21.1
38731 00	Clocks, timing mechanisms, time switches, and clock movements, n.s.k	.....	(NA)	(X)	12.6
38734 --	Watches with imported movements or modules	.....	(NA)	(X)	300.7
	Watches with balance wheel and hairspring:				
38734 11	Zero to one jewel	Thousands	3	8,802.8	206.3
38734 12	Over one jewel		11		
	Watches without balance wheel and hairspring:				
38734 21	With solid state (electronic) modules or movements		14	4,445.8	93.4
38734 22	With movements or modules other than solid state (electronic)	Thousands	1		
38734 00	Watches with imported movements or modules, n.s.k	.....	(NA)	(X)	1.0
38735 --	Watches with domestic movements or modules and watch movements, clock cases, and parts for all clocks and watches	.....	(NA)	(X)	471.3
	Watches with domestic movements or modules:				
38735 11	Watches with balance wheel and hairspring	Thousands	5	24,134.1	160.8
	Watches without balance wheel and hairspring:				
38735 12	Watches with solid state (electronic) modules or movements		12	9,753.4	144.3
38735 13	Watches with movements or modules other than solid state	Thousands	2		
	Watch movements, clock cases, and parts for all clocks and watches:				
38735 21	Clock cases and parts thereof	.....	4	(X)	6.4
38735 22	Other clock parts, except timing motors	.....	7	(X)	16.3
	Watch movements and modules (solid state), complete, for sale separately, excluding those purchased and sold in the same condition:				
38735 31	With balance wheel and hairspring	Thousands	1	(S)	143.3
	Without balance wheel and hairspring:				
38735 32	Solid state (electronic) modules		7		
38735 33	Other than solid state	Thousands	1		
38735 39	Watch parts for sale separately, except watchcases, movements and modules, and crystals	.....	9		
38735 00	Watch movements, clock cases, and parts for all clocks and watches, n.s.k	.....	(NA)	(X)	.2
38737 --	Watchcases and parts for watchcases	.....	(NA)	(X)	67.2
	Watchcases:				
38737 01	Precious metal	Thousands	10	*485.1	22.0
38737 02	Base metal		13	9,271.5	35.9
38737 03	Other, including plastic	Thousands	-	(S)	9.3
38737 19	Parts for watchcases	.....	5		
38737 00	Watchcases and parts for watchcases, n.s.k	.....	(NA)	(X)	-
38730 00	Watches, clocks, and watchcases, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	26.8
38730 02	Watches, clocks, and watchcases, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	33.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments	
				Quantity	Value (million dollars)
			1972		
	WATCHES, CLOCKS, AND WATCHCASES--CON.				
3873- --	Total	.....	(NA)	(X)	871.1
38731 --	Clocks	.....	(NA)	(X)	320.0
	Electric clocks, complete, frequency motor, synchronous or subsynchronous, except as specified in code 38731 34:				
38731 11	Alarm, excluding clock timers and timing mechanisms	Millions	(NA)	15.9	63.3
	Household, except alarm:				
38731 12	Wall		(NA)		
38731 13	All other, including chime and strike, occasional, desk, and mantel		(NA)	.9	9.2
38731 15	Commercial, including office, factory, and school		(NA)		
	Spring wound and weight operated clocks, except automobile clocks and as specified in code 38731 36:				
38731 21	Alarm		(NA)	8.8	50.0
38731 23	Household and commercial, except alarm, including chime and strike, kitchen, desk, mantel, and wall		(NA)		
38731 25	Battery powered clocks		(NA)	1.1	10.6
38731 28	Timers and switch clocks having hands and dials for telling time of day, including electric and spring wound		(NA)	4.9	21.0
38731 34	Other clocks, electric, complete (tower, street, master, magnet operated secondary clocks, chronometers and automotive clocks, etc.)		(NA)	(S)	29.5
38731 36	Other nonelectric clocks, complete (tower, street, master, magnet operated secondary clocks, chronometers, and nonelectric automotive clocks, etc.)		(NA)	-	-
38731 51	Clock movements, electric, complete, but not cased for timepiece use, including clocks for clock radios		(NA)	3.8	11.3
38731 55	Nonelectric clock movements, complete, but not cased for timepiece use		(NA)		
	Timing mechanisms not for timepiece use, including elapsed time indicators, delay timers, program timers, etc., and mechanisms for recording and controlling instruments, parking meters, driving mechanisms, metronomes, and other devices excluding time recording and time stamp machines:				
	Electric:				
38731 62	Military timing mechanisms		(NA)	5.4	17.2
38731 63	Household timing mechanisms		(NA)	(S)	49.9
38731 64	Commercial timing mechanisms		(NA)	3.1	36.6
38731 65	Spring wound	Millions	(NA)	1.8	6.1
38731 00	Clocks, n.s.k	.....	(NA)	(X)	15.3
38734 --	Watches with imported movements	.....	(NA)	(X)	192.1
	Jeweled lever escapement, excluding battery powered:				
	Men's wristwatches:				
38734 13	Under 17 jewels	Millions	(NA)	1.1	12.1
38734 15	17 jewels		(NA)	3.0	69.4
38734 19	Over 17 jewels		(NA)		
	Women's wristwatches:				
38734 23	Under 17 jewels		(NA)	.7	6.4
38734 25	17 jewels		(NA)	4.1	85.0
38734 29	Over 17 jewels		(NA)	.3	4.0
38734 39	Other, including pocket, lapel, etc		(NA)		
38734 62	Pin lever escapement, all types, excluding travel and automobile clocks, etc., with watch movements		(NA)	(S)	12.2
38734 65	Battery powered	Millions	(NA)		
38734 00	Watches with imported movements, n.s.k	.....	(NA)	(X)	3.0
38735 --	Watches with domestic movements and parts for all watches and clocks	.....	(NA)	(X)	285.4
	Jeweled lever escapement type watches, excluding battery powered:				
38735 15	Men's wristwatches	Millions	(NA)	1.0	19.9
38735 25	Women's wristwatches		(NA)		
38735 61	Other watches with domestic movements, including pocket watches (jeweled or pin lever), pin lever wristwatches (men's and women's), and battery powered watches of all types	Millions	(NA)	(S)	263.8
	Clock and watch parts, except watch crystals:				
38735 81	Clock cases and clock parts, except timing motors	.....	(NA)		
38735 87	Watch movements, complete, for sale separately, excluding those purchased and resold in same condition	Millions	(NA)		
38735 89	Watch parts for sale separately, except watchcases and watch crystals	.....	(NA)		
38735 00	Watches with domestic movements and parts for all watches and clocks, n.s.k	.....	(NA)	(X)	1.7

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	Number of companies with shipments of $100,000 or more	Product shipments	
				Quantity	Value (million dollars)
			1972--Con.		
	WATCHES, CLOCKS, AND WATCHCASES--Con.				
38737 --	Watchcases	.....	(NA)	(X)	52.9
	For jeweled watch movements:				
	Men's wristwatch cases:				
38737 11	Karat gold and platinum	Thousands	(NA)	339.3	8.5
38737 13	Gold filled		(NA)	818.3	4.2
38737 15	Rolled goldplate and sterling silver, including rolled goldplate with steel back		(NA)	1,470.5	10.2
38737 19	Other metals		(NA)		
	Women's wristwatch cases:				
38737 21	Karat gold and platinum		(NA)	442.7	9.1
38737 23	Gold filled		(NA)	448.8	2.7
38737 25	Rolled goldplate and sterling silver, including rolled goldplate with steel back		(NA)	3,563.4	7.5
38737 29	Other metals		(NA)		
	For nonjeweled or pinlever watch movements:				
	Wristwatch cases:				
38737 51	Gold filled, rolled goldplate, and sterling silver, including rolled goldplate with steel back		(NA)	943.0	6.2
38737 59	Other metals		(NA)		
38737 65	Pocket and other watchcases, all qualities, for jeweled, nonjeweled, or pinlever watch movements	Thousands	(NA)		
38737 00	Watchcases, n.s.k.	.....	(NA)	(X)	4.5
38730 00	Watches, clocks, and watchcases, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	14.3
38730 02	Watches, clocks, and watchcases, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	6.4

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00," or in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or less than half the unit of measure specified.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on the quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published. figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Product classes 38411 and 38412 were created for 1977; there were none in this industry in prior years.

[4]For 1972, data for products now coded 38411 41 and 38411 89 were combined to avoid disclosing operations of individual companies.

[5]Not applicable because data were not collected separately for product classes 38411 and 38412 in 1972.

[6]For 1977, product codes 38421 15, 38421 33, 38421 34,38421 61, and 38421 98 were combined to avoid disclosing operations of individual companies.

[7]For 1972, product codes 38421 26 and 38421 29 were combined to avoid disclosing operations of individual companies.

[8]For 1972, product codes 38421 31, 38421 32, 38421 61, and 38421 98 were combined to avoid disclosing operations of individual companies.

[9]For 1972, product codes 38515 00 and 38516 00 were included with product code 38514 00 and, thus, in product class 38514 total.

[10]For 1977, product codes 38612 --, 38616 --, and 38610 00 were combined to avoid disclosing operations of individual companies.

[11]For 1977, product codes 38614 02 and 38614 05 were combined to avoid disclosing operations of individual companies.

[12]Quantities represent total square feet of sensitized material (TSFSM) in millions. Motion picture film was collected in linear feet by width but was converted to TSFSM to provide a common unit of measure for the combination shown.

[13]For 1977, product codes 38615 11 through 38615 64 plus 38615 81 were combined to avoid disclosing operations of individual companies.

[14]For 1977, product codes 38617 11 and 38617 00 were combined to avoid disclosing operations of individual companies.

[15]This value includes rental receipts for some companies.

[16]Quantities represent total square yards of sensitized materials (TSYSM) in millions.

[17]For 1977, product codes 38731 31, 38731 41, 38731 61, 38731 52, and 38731 28 were combined to avoid disclosing operations of individual companies.

[18]For 1977, product codes 38731 32 and 38731 39 were combined to avoid disclosing operations of individual companies.

Table 6b. Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in produce class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
38411, SURGICAL AND MEDICAL INSTRUMENTS AND APPARATUS		
United States	1,506.7	(NA)
New England Division:		
Massachusetts	65.3	(NA)
Connecticut	82.3	(NA)
Middle Atlantic Division:		
New York	141.5	(NA)
New Jersey	112.3	(NA)
Pennsylvania	52.1	(NA)
East North Central Division:		
Ohio	10.8	(NA)
Indiana	26.7	(NA)
Illinois	110.6	(NA)
West North Central Division:		
Minnesota	17.4	(NA)
Missouri	29.4	(NA)
South Atlantic Division:		
North Carolina	73.7	(NA)
Georgia	39.1	(NA)
Florida	76.0	(NA)
East South Central Division:		
Tennessee	16.5	(NA)
West South Central Division:		
Texas	36.0	(NA)
Pacific Division:		
Oregon	8.8	(NA)
California	179.6	(NA)
38412, HOSPITAL FURNITURE, EXCLUDING BEDS AND CHAIRS		
New England Division:		
Massachusetts	206.7	(NA)
Middle Atlantic Division:		
New York	30.7	(NA)
New Jersey	3.3	(NA)
East North Central Division:		
Ohio	14.8	(NA)
Illinois	7.6	(NA)
Wisconsin	16.9	(NA)
Pacific Division:		
California	16.9	(NA)
38421, SURGICAL APPLIANCES AND SUPPLIES		
United States	1,773.0	782.0
New England Division:		
Massachusetts	25.1	6.4
Connecticut	80.7	FF
Middle Atlantic Division:		
New York	79.9	36.8
New Jersey	228.9	131.0
Pennsylvania	53.9	44.5
East North Central Division:		
Ohio	77.1	27.1
Indiana	80.1	31.4
Illinois	212.1	118.0
Michigan	20.6	8.1
Wisconsin	40.0	2.8
West North Central Division:		
Minnesota	18.4	FF
Missouri	44.6	FF
Nebraska	7.1	1.0
Kansas	9.1	(NA)
38421, SURGICAL APPLIANCES AND SUPPLIES--Con.		
South Atlantic Division:		
Maryland	2.7	2.2
North Carolina	27.5	9.3
Georgia	49.1	BB
Florida	23.5	6.5
East South Central Division:		
Tennessee	27.0	EE
Alabama	9.1	AA
West South Central Division:		
Oklahoma	3.2	(NA)
Pacific Division:		
California	170.3	GG
38423, PERSONAL INDUSTRIAL SAFETY DEVICES		
United States	403.1	226.0
New England Division:		
Massachusetts	11.5	8.5
Middle Atlantic Division:		
New York	35.6	21.9
New Jersey	12.4	4.6
Pennsylvania	99.8	60.5
East North Central Division:		
Ohio	14.3	10.6
Illinois	18.6	CC
Michigan	27.2	CC
Wisconsin	4.4	BB
East South Central Division:		
Kentucky	10.6	AA
West South Central Division:		
Texas	5.4	(NA)
Pacific Division:		
California	54.0	33.1
38424, HEARING AIDS, ELECTRONIC		
United States	58.1	50.0
West North Central Division:		
Minnesota	23.3	EE
38511, OPHTHALMIC FRONTS AND TEMPLES		
United States	154.2	111.5
New England Division:		
Massachusetts	26.8	EE
Middle Atlantic Division:		
New York	48.4	46.6
New Jersey	16.8	EE
South Atlantic Division:		
Florida	7.0	BB
38513, ALL OPHTHALMIC GOODS, N.E.C.		
United States	259.3	194.8
New England Division:		
Massachusetts	105.1	88.0
Middle Atlantic Division:		
New Jersey	8.3	CC
East North Central Division:		
Ohio	3.2	AA
Pacific Division:		
California	12.2	BB

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
38514, GLASS OPHTHALMIC FOCUS LENSES		
United States	132.6	(NA)
New England Division:		
Massachusetts	35.1	(NA)
Middle Atlantic Division:		
Pennsylvania	2.5	(NA)
Pacific Division:		
California	2.6	(NA)
38515, PLASTIC OPHTHALMIC FOCUS LENSES		
United States	73.8	(NA)
South Atlantic Division:		
Florida	18.9	(NA)
Pacific Division:		
California	30.8	(NA)
38516, CONTACT LENSES		
United States	117.7	(NA)
Pacific Division:		
California	2.4	(NA)
38611, STILL PICTURE EQUIPMENT		
United States	925.8	616.5
Middle Atlantic Division:		
New Jersey	60.7	FF
East North Central Division:		
Ohio	4.7	AA
Illinois	78.9	57.5
West North Central Division:		
Minnesota	38.6	FF
Pacific Division:		
California	14.5	EE
38612, PHOTOCOPYING EQUIPMENT		
United States	(D)	(NA)
East North Central Division:		
Illinois	41.6	(NA)
38613, MOTION PICTURE EQUIPMENT		
United States	178.2	191.6
Middle Atlantic Division:		
New York	62.7	GG
Pacific Division:		
California	27.5	FF
38614, MICROFILMING, BLUEPRINTING, WHITEPRINTING EQUIPMENT		
United States	240.2	137.5
Middle Atlantic Division:		
New Jersey	2.0	BB
East North Central Division:		
Illinois	17.7	EE
Wisconsin	39.9	8.3
Pacific Division:		
California	29.1	3.0
38615, SENSITIZED FILM AND PLATES, SILVER HALIDE TYPE		
United States	2,587.3	(NA)
Pacific Division:		
California	31.4	(NA)
38617, SENSITIZED FILM, PAPER, AND CLOTH, N.E.C.		
United States	443.1	306.2
Middle Atlantic Division:		
New York	47.5	30.9
New Jersey	14.6	CC
East North Central Division:		
Ohio	7.9	(NA)
Illinois	43.0	GG
Michigan	8.8	3.6
Pacific Division:		
California	30.1	EE
38618, PREPARED PHOTOGRAPHIC CHEMICALS		
United States	634.3	286.2
Middle Atlantic Division:		
New York	303.7	GG
New Jersey	81.2	48.6
Pennsylvania	9.4	3.6
East North Central Division:		
Illinois	11.0	17.5
Pacific Division:		
California	26.6	17.4
38731, CLOCKS, TIMING MECHANISMS, AND CLOCK MOVEMENTS		
United States	433.0	320.0
New England Division:		
Massachusetts	32.4	(D)
Connecticut	35.1	(D)
Middle Atlantic Division:		
New York	3.8	CC
New Jersey	19.8	17.3
East North Central Division:		
Illinois	56.3	GG
Michigan	46.5	CC
East South Central Division:		
Alabama	17.7	EE
Mississippi	43.6	FF
Pacific Division:		
California	6.3	AA
38734, WATCHES WITH IMPORTED MOVEMENTS OR MODULES		
United States	300.7	192.1
Middle Atlantic Division:		
New York	152.1	133.6
38735, WATCHES WITH DOMESTIC MOVEMENTS OR MODULES		
United States	471.3	285.4
Middle Atlantic Division:		
New York	29.5	FF
Pennsylvania	5.6	(NA)
Pacific Division:		
California	12.1	AA
38737, WATCHCASES AND PARTS FOR WATCHCASES		
United States	67.2	52.9
Middle Atlantic Division:		
New York	39.9	28.8

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. **Product Classes — Value Shipped by All Producers: 1963, 1967, and 1972 to 1977**

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3841-	Surgical and medical instruments	1,891.3							
38411	Surgical and medical instruments and apparatus	1,506.7	1,849.3	1,539.2	1,348.4	1,200.3	984.2	542.9	290.6
38412	Hospital furniture, excluding beds and chairs	206.7							
38410	Surgical and medical instruments, n.s.k.	177.9							
3842-	Surgical appliances and supplies	2,413.0	1,936.6	1,763.3	1,592.1	1,303.5	1,142.1	691.3	461.8
38421	Surgical appliances and supplies	1,773.0	1,574.3	1,470.0	1,269.1	900.8	782.0	475.0	318.2
38423	Personal industrial safety devices	403.1	(312.9)	240.5	261.0	272.5	226.0	144.4	97.4
38424	Hearing aids, electronic	58.1	47.8	51.0	55.9	51.3	50.0	40.9	35.3
38420	Surgical appliances and supplies, n.s.k.	178.8	(S)	(1.8)	(6.1)	78.9	84.1	31.1	11.0
38430	Dental instruments, equipment and supplies	660.7	599.6	548.9	528.7	402.4	352.3	201.8	139.5
3851-	Ophthalmic goods	844.3	752.4	647.0	616.2	557.3	483.5	377.5	244.1
38511	Ophthalmic fronts and temples	154.2	208.4	160.8	168.7	124.9	111.5	84.2	(NA)
38513	Ophthalmic goods, n.e.c.	259.3	226.4	216.6	214.3	197.2	194.8	124.3	(NA)
38514	Glass ophthalmic focus lenses	132.6							
38515	Plastic ophthalmic focus lenses	73.8	292.9	240.5	217.4	193.0	134.5	134.2	(NA)
38516	Contact lenses	117.7							
38510	Ophthalmic goods, n.s.k.	106.7	(24.7)	(29.1)	15.8	42.2	42.7	34.8	(NA)
3861-	Photographic equipment and supplies	9,217.5	8,241.7	7,318.2	7,034.7	6,182.4	5,255.4	3,138.0	1,631.4
38611	Still picture equipment	925.8	846.6	774.5	840.9	790.8	616.5	484.8	223.6
38612	Photocopying equipment	(D)	(D)	(D)	(D)	(D)	1,455.1	602.2	173.6
38613	Motion picture equipment	178.2	249.6	225.5	267.4	232.4	191.6	194.3	127.9
38614	Microfilming, blueprinting, whiteprinting equipment	240.2	251.3	216.3	207.3	172.8	137.5	53.6	29.3
38615	Sensitized film and plates, silver halide type	2,587.3	2,276.5	1,966.2	1,824.8	1,585.5	1,427.6	(D)	(D)
38616	Sensitized paper and cloth, silver halide type	(D)	(D)	(D)	(D)	(D)	376.4	238.7	191.3
38617	Sensitized film, paper, and cloth, n.e.c.	443.1	371.7	307.4	395.8	368.8	306.2	193.5	128.1
38618	Prepared photographic chemicals	634.3	404.7	394.2	274.6	231.8	286.2	148.3	74.3
38619	X-ray film	515.3	518.5	467.1	417.5	314.3	297.6	(D)	(D)
38610	Photographic equipment and supplies, n.s.k.	(D)	(D)	(D)	(D)	(D)	160.7	119.9	78.4
3873-	Watches, clocks, and watchcases[2]	1,332.0	1,335.1	1,045.4	1,019.9	955.6	880.8	708.3	435.6
38731	Clocks, timing mechanisms, and clock movements	433.0	449.8	364.9	399.5	340.4	329.7	276.1	173.8
38734	Watches with imported movements or modules	300.7	253.9	191.9	215.3	223.0	192.1	190.6	112.8
38735	Watches with domestic movements or modules	471.3	551.1	435.3	350.5	319.2	285.4	165.0	102.2
38737	Watchcases and parts for watchcases	67.2	61.2	49.9	46.5	58.6	52.9	44.8	29.4
38730	Watches, clocks, and watchcases, n.s.k.	59.8	(19.1)	3.4	(8.1)	14.4	20.7	31.8	17.3

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Prior to 1972, this industry was published as two separate industries: 3871, Watches and Clocks; and 3872, Watchcases.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977, quantity	1977, delivered cost (million dollars)
	INDUSTRY 3841, SURGICAL AND MEDICAL INSTRUMENTS[1]			
	Materials, parts, containers, and supplies	.....	(X)	537.9
207431	Cotton linters (net weight)	Million lb.....	-	-
221101	Cotton broad woven fabrics (piece goods)	Mil. lin. yd.....	(S)	.8
220149	Other broad woven fabrics (piece goods)	Mil. lin. yd.....	(S)	.7
229710	Nonwoven fabric	Mil. sq. yd.....	(S)	1.5
260003	Paper and paperboard products, except paperboard boxes and containers	1,000 s. tons.....	(S)	15.2
265001	Paperboard boxes and containers	1,000 s. tons.....	(S)	24.9
282104	Plastics resins, consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	25.5
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	38.4
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	92.2
320103	Glass and glass products, except photographic and projection lenses and prisms	.....	(X)	7.8
331002	Steel mill shapes and forms, except castings and forgings	.....	(X)	29.6
335002	Nonferrous metal mill shapes and forms	1,000 s. tons.....	(S)	14.1
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	12.7
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	16.3
367408	Semiconductors	.....	(X)	2.4
970099	All other materials and components, parts, containers, and supplies	.....	(X)	182.2
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	73.6

1977 material code	Material	Unit of measure	1977 Quantity[3]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3842, SURGICAL APPLIANCES AND SUPPLIES					
	Materials, parts, containers, and supplies	.....	(X)	854.7	(X)	423.6
207431	Cotton linters (net weight)	Million lb.....	*22.0	11.1	12.2	4.1
221101	Cotton broad woven fabrics (piece goods)	Mil. lin. yd...	(S)	28.3	(S)	23.2
220149	Other broad woven fabrics (piece goods)	Mil. lin. yd...	(S)	62.4	9.7	8.4
229710	Nonwoven fabric	Mil. sq. yd....	(S)	62.0	(S)	15.2
260003	Paper and paperboard products, except paperboard boxes and containers	1,000 s. tons..	(S)	25.9	(X)	[4]25.0
265001	Paperboard boxes and containers	1,000 s. tons..	(S)	27.9	(X)	[4]14.0
282104	Plastics resins, consumed in the form of granules, pellets, powders, liquids, etc. but excluding sheets, rods, tubes and shapes	Million lb.....	(S)	15.4	(X)	[4]21.0
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	24.5	(X)	[4]15.0
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	33.1	(X)	[4]9.0
320103	Glass and glass products, except photographic and projection lenses and prisms	.....	(X)	13.6	(X)	[4]12.0
331002	Steel mill shapes and forms, except castings and forgings	.....	(X)	31.7	(X)	[4]21.0
335002	Nonferrous metal mill shapes and forms	1,000 s. tons..	(S)	5.0	(X)	[4]10.0
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	5.6	(X)	[4]18.0
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	16.4	(X)	[4]12.0
367408	Semiconductors	.....	(X)	.8	(X)	171.0
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	346.8	(X)	44.7
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	144.2		

1977 material code	Material	Unit of measure	1977, quantity	1977, delivered cost (million dollars)
	INDUSTRY 3843, DENTAL EQUIPMENT AND SUPPLIES[1]			
	Materials, parts, containers, and supplies	.....	(X)	284.6
260003	Paper and paperboard products, except paperboard boxes and containers	1,000 s. tons.....	*.3	0.8
265001	Paperboard boxes and containers	1,000 s. tons.....	(S)	3.3
282104	Plastics resins, consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	1.8
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	.....	(X)	.6
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	4.4
320103	Glass and glass products, except photographic and projection lenses and prisms	.....	(X)	1.7
331002	Steel mill shapes and forms, except castings and forgings	.....	(X)	5.0
335002	Nonferrous metal mill shapes and forms	1,000 s. tons.....	*4.8	9.7
345001	Bolts, nuts, screws, rivets, and screw machine products	.....	(X)	5.1
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors	.....	(X)	9.6
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	182.3
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	60.3

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[3]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3851, OPHTHALMIC GOODS					
3851--	Materials, parts, containers, and supplies		(X)	262.2	(X)	149.3
322941	Lens blanks, optical and ophthalmic	Millions	(S)	54.4	(X)	[4]33.0
383201	Lenses and prisms for optical instruments, sighting and fire control equipment	Millions	(D)	(D)	(X)	[4]24.0
322901	Other optical glass		(X)	6.8		
367408	Semiconductors	Millions	(D)	(D)	(X)	([5])
367001	Resistors, capacitors, transformers, transducers, and other electronic-type components and accessories, except electron tubes and semiconductors		(X)	(D)	(X)	([5])
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	32.9	(X)	([5])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	(S)	16.5	(X)	[4]15.0
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc.	Million lb	(S)	9.7	(X)	[4]25.0
970099	All other materials and components, parts, containers, and supplies		(X)	91.5	(X)	[5]52.3
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	49.9		
	INDUSTRY 3861, PHOTOGRAPHIC EQUIPMENT AND SUPPLIES					
	Materials, parts, containers, and supplies		(X)	2,857.5	(X)	1,297.1
	Mill shapes and forms, except castings:					
331001	Carbon steel	1,000 s. tons.	31.6	19.4		
331020	Alloy steel, except stainless		(S)	8.3	(D)	(D)
	Stainless steel:					
331033	Sheet and strip		(S)	13.7		
331050	All other stainless steel mill shapes and forms	1,000 s. tons.	(S)	5.2		
335105	Copper and copper-base alloy	Million lb	(S)	2.0	7.8	3.4
335001	Aluminum and aluminum-base alloy		(S)	19.1	6.7	4.9
336100	Aluminum and aluminum-base alloy castings:					
	Purchased		(S)	7.3	(S)	29.0
	Produced and consumed	Million lb	(S)	(X)	(S)	(X)
	Fractional horsepower electric motors under 1 hp:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions	(S)	3.5	.2	1.8
	Produced and consumed		(S)	(X)	(S)	(X)
362115	Other fractional horsepower motors, excluding timing motors:					
	Purchased		*1.3	15.2	2.3	14.8
	Produced and consumed		(S)	(X)	(S)	(X)
367010	Electron tubes, except X-ray:					
	Purchased		(S)	.8	.1	.2
	Produced and consumed	Millions	(S)	(X)	(S)	(X)
367408	Solid state semiconductors		(X)	22.3	(D)	(D)
281997	Silver nitrate	Million oz	*56.9	162.7	41.2	38.9
289945	Gelatin, photographic grade		(X)	16.2	(X)	[4]24.0
386180	Prepared photographic chemicals		(X)	42.1	(X)	([6])
286902	Synthetic organic chemicals, except prepared photographic chemicals		(X)	59.0	(X)	[4]121.0
281903	Inorganic chemicals, n.e.c., except silver nitrate and prepared photographic chemicals		(X)	44.7	(X)	[4]59.0
383211	Photographic and projection lenses and prisms		(X)	26.3	(X)	49.9
262104	Photographic base papers		(X)	101.7	(X)	[4]40.0
265001	Paperboard boxes and containers		(X)	47.5	(X)	[4]28.0
260004	Paper and paperboard products, except paperboard boxes and containers and photographic base papers		(X)	75.6	(X)	[4]59.0
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb	*100.5	42.5	(X)	([6])
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	63.7	(X)	([6])
346901	Metal stampings		(X)	30.8	(X)	[4]21.0
364101	Electric lamp bulbs		(X)	9.7	(X)	[4]11.0
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	20.3	(X)	[4]6.0
356601	Speed changers, drives, and gears		(X)	10.9	(X)	([6])
970099	All other materials and components, parts, containers, and supplies consumed		(X)	1,823.1	(X)	[6]544.7
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	163.9	(X)	42.1

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[3]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3873, WATCHES, CLOCKS, AND WATCHCASES					
	Materials, parts, containers, and supplies	.....	(X)	803.6	(X)	485.2
	Fractional horsepower electric motors:					
362110	Timing motors, synchronous and subsynchronous:					
	Purchased	Millions.....				
	Produced and consumed					
362115	Other fractional horsepower electric motors:		*[7]5.4	[7]4.2	[7]3.6	[7]3.5
	Purchased					
	Produced and consumed					
	Watchcases:					
387371	Precious metal:					
	Purchased		[7]3.0	25.1		
	Produced and consumed		(S)	(X)		
387372	Base metal:					
	Purchased				[7]31.0	[7]75.2
	Produced and consumed					
387373	Other, including plastic:		**[7]14.0	[7]27.8		
	Purchased					
	Produced and consumed					
	Imported watch movements and modules:					
387341	With balance wheel and hairspring		*9.0	100.8	19.5	116.4
387342	Without balance wheel and hairspring		3.3	41.7		
367400	Transistors, diodes, and rectifiers		(S)	2.8	(X)	([8])
367411	Integrated circuits	Millions.....	19.6	24.7	(X)	([8])
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	*13.0	6.6	(X)	[4]10.0
307902	Fabricated plastics products, except gaskets	.....	(X)	16.7	(X)	[4]18.0
265001	Paperboard boxes and containers	.....	(X)	10.5	(X)	[4]11.0
331001	Steel mill shapes and forms, except castings and forgings	1,000 s. tons..	6.8	4.9	(X)	[4]16.0
335105	Copper and copper-base alloy mill shapes and forms, except castings	Million lb.....	2.7	2.6	(X)	[4]14.0
335609	Nonferrous metal mill shapes and forms, except copper and aluminum	1,000 s. tons..	*.4	1.8	(X)	[4]18.0
335770	Magnet wire	Million lb.....	**1.4	2.2		
345001	Bolts, nuts, screws, rivets, washers, and screw machine products	.....	(X)	6.8	(X)	[4]22.0
387353	Watch parts, including dials, hands, displays, numerals, etc., except imported watch movements	.....	(X)	195.0	(X)	[4]77.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	265.1	(X)	[8]90.4
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	64.3	(X)	13.7

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Materials consumed by kind data were not collected in 1972.

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals of exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[4]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[5]For 1972, material codes 367408, 367001, and 307903 were included with material code 970099.

[6]For 1972, material codes 282104, 307903, 356601, and 386180 were included with material code 970099.

[7]Represents only quantity and value purchased.

[8]For 1972, material codes 367400 and 367411 were included with material code 970099.

Jewelry, Silverware, and Plated Ware

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DESCRIPTION OF INDUSTRIES

JEWELRY, SILVERWARE, AND PLATED WARE

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3911 Jewelry, Precious Metal
3914 Silverware and Plated Ware
3915 Jewelers' Materials and Lapidary Work

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3911, JEWELRY, PRECIOUS METAL

This industry comprises establishments primarily engaged in the manufacture of jewelry and other articles worn on or carried about the person, made of precious metals with or without stones (including the setting of stones where used), including cigarette cases and lighters, vanity cases and compacts; trimmings for umbrellas and canes; and jewel settings and mountings. Establishments primarily engaged in the manufacture of costume jewelry from nonprecious metals and other materials are classified in industry 3961. For a detailed list of products of industry 3911, refer to table 6A, product codes 39111 12 to 39112 98.

The total value of shipments for establishments classified in the Jewelry, Precious Metal industry amounted to $2,107 million in 1977, an increase of 87 percent from 1972. The value of shipments of products classified as primary to the industry was $1,908 million, an increase of 94 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $980 million in 1977, was 83 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 42.1 thousand employees, an increase of 29 percent from 1972. The leading States in employment were New York, Rhode Island, Massachusetts, and California, accounting for approximately 70 percent of the industry's 1977 employment.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 12 percent of total value of shipments.

INDUSTRY 3914, SILVERWARE AND PLATED WARE

This industry comprises establishments primarily engaged in the manufacture of flatware (including knives, forks, and spoons), hollowware, toiletware, ecclesiastical ware, and related products made of sterling silver; of metal plated with silver, gold, or other metal; of nickel silver; of pewter; or of stainless steel. For a detailed list of products of industry 3914, refer to table 6A, product codes 39141 11 to 39142 61.

The total value of shipments for establishments classified in the Silverware and Plated Ware industry amounted to $457 million in 1977, an increase of 21 percent from 1972. The value of shipments of products classified as primary to the industry was $403 million, an increase of 27 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $255 million in 1977, was 29 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 10.8 thousand employees, a decrease of 14 percent from 1972. The leading States in employment were New York, Massachusetts, Connecticut, and Rhode Island, accounting for approximately 75 percent of the indus-

try's 1977 employment. Data for Rhode Island have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3915, JEWELERS' MATERIALS AND LAPIDARY WORK

This industry comprises establishments primarily engaged in the manufacture of unassembled jewelry parts and stock shop products such as sheet, wire, and tubing; establishments of lapidaries primarily engaged in cutting, slabbing, tumbling, carving, engraving, polishing or faceting stones from natural or manmade precious or semiprecious gem raw materials, either for sale or on a contract basis for the trade; in recutting, repolishing, and setting gem stones; or in cutting, drilling, and otherwise preparing jewels for instruments, dies, watches, chronometers, and other industrial uses. This industry includes the drilling, sewing, and peeling of real or cultured pearls, but does not include the manufacture of artificial pearls which are classified in industry 3961. For a detailed list of products of industry 3915, refer to table 6A, product codes 39151 13 to 39152 31.

The total value of shipments for establishments classified in the Jewelers' Materials and Lapidary Work industry amounted to $685 million in 1977, an increase of 112 percent from 1972. The value of shipments of products classified as primary to the industry was $726 million, an increase of 116 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $214 million in 1977, was 82 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 8.3 thousand employees, an increase of 4 percent from 1972. The leading States in employment were Rhode Island, New York, and Massachusetts, accounting for approximately 80 percent of the industry's 1977 employment. Data for Rhode Island have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

The establishments in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 12 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3911, JEWELRY, PRECIOUS METAL																
1977 Census--	2 165	2 206	405	42.1	432.0	29.2	53.3	241.4	979.8	1 154.9	2 107.0	25.6	(NA)	489.8	92	97
1976 ASM[6] ---	(NA)	(NA)	(NA)	40.8	410.1	28.8	52.5	233.3	825.7	963.9	1 766.5	47.0	(S)	411.7	(NA)	(NA)
1975 ASM[6] ---	(NA)	(NA)	(NA)	34.7	336.8	24.6	45.1	191.7	681.6	829.9	1 513.7	17.6	(S)	365.7	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	34.3	310.3	24.6	45.6	177.1	677.5	768.9	1 366.3	10.4	(S)	370.8	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	33.3	283.3	24.2	46.3	160.1	615.3	716.1	1 324.1	15.3	(S)	328.2	(NA)	(NA)
1972 Census--	1 497	1 524	315	32.6	267.2	23.8	44.6	155.8	536.0	612.1	1 124.6	10.3	(S)	288.6	92	96
1971 ASM----	(NA)	(NA)	(NA)	34.1	252.4	24.7	47.3	150.1	476.6	508.7	962.7	6.9	113.4	277.0	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	34.2	240.1	25.3	47.4	148.4	442.6	483.1	913.5	8.9	114.5	228.2	(NA)	(NA)
1969 ASM[6] ---	(NA)	(NA)	(NA)	32.0	225.4	23.2	43.6	137.8	429.6	477.2	892.1	10.0	149.1	206.1	(NA)	(NA)
1968 ASM[6] ---	(NA)	(NA)	(NA)	32.1	212.7	23.7	45.7	134.2	414.0	471.8	867.0	9.1	(S)	178.7	(NA)	(NA)
1967 Census--	1 477	1 489	306	29.9	182.6	22.8	44.1	113.6	352.7	397.7	741.8	5.9	(S)	148.1	91	96
1966 ASM----	(NA)	(NA)	(NA)	29.3	161.3	22.2	44.3	94.9	327.9	375.9	693.8	5.2	(NA)	135.1	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	28.4	144.8	21.6	45.0	87.8	314.1	319.3	620.5	3.9	(NA)	124.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	24.1	134.3	17.5	36.0	83.6	240.0	272.8	508.6	3.5	50.1	104.9	(NA)	(NA)
1963 Census--	1 428	1 438	218	23.6	125.6	17.5	35.6	79.3	234.9	248.4	481.9	3.7	47.9	105.3	92	97
INDUSTRY 3914, SILVERWARE AND PLATED WARE																
1977 Census--	247	258	67	10.8	119.8	8.3	15.7	80.2	255.1	205.4	457.0	8.0	(NA)	142.8	93	[illegible]
1976 ASM[6] ---	(NA)	(NA)	(NA)	9.0	99.9	6.8	13.6	65.4	191.4	187.7	397.6	10.1	123.3	123.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	9.4	92.0	7.0	12.2	58.7	180.9	166.1	370.6	6.5	123.3	127.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.7	103.0	8.4	16.3	72.5	204.4	180.4	375.3	7.1	113.5	138.1	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	12.7	111.1	10.0	19.5	80.1	205.8	207.1	404.7	13.6	114.8	119.3	(NA)	(NA)
1972 Census--	188	205	71	13.1	106.4	10.0	19.9	76.0	206.8	178.8	377.4	9.8	102.3	105.4	94	97
1971 ASM----	(NA)	(NA)	(NA)	12.5	95.4	9.7	19.0	68.1	190.8	148.5	339.9	8.8	105.7	97.2	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	13.0	91.9	10.4	20.3	69.7	180.8	138.4	321.3	71.1	100.2	95.9	(NA)	(NA)
1969 ASM[6] ---	(NA)	(NA)	(NA)	14.5	100.8	12.0	24.3	78.3	214.1	156.9	365.4	10.4	106.4	101.7	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	14.7	98.1	12.5	25.1	77.7	206.0	156.3	354.2	15.4	99.8	96.5	(NA)	(NA)
1967 Census--	186	195	82	14.9	95.8	12.6	26.4	76.5	198.0	148.2	339.1	5.7	90.2	83.0	95	99
1966 ASM[6] ---	(NA)	(NA)	(NA)	15.1	93.4	12.8	27.2	74.3	189.6	144.4	325.1	8.2	(NA)	77.1	(NA)	(NA)
1965 ASM[6] ---	(NA)	(NA)	(NA)	14.1	82.3	11.9	25.0	64.9	159.9	130.7	288.3	6.3	(NA)	65.8	(NA)	(NA)
1964 ASM[6] ---	(NA)	(NA)	(NA)	14.3	78.9	11.9	24.3	61.5	137.0	121.4	261.1	3.5	69.5	60.9	(NA)	(NA)
1963 Census--	201	209	87	13.2	70.9	10.9	22.1	54.8	130.7	108.9	238.9	2.7	67.3	60.6	95	[illegible]
INDUSTRY 3915, JEWELERS' MATERIALS AND LAPIDARY WORK[3]																
1977 Census--	650	654	92	8.3	85.9	6.8	12.2	51.3	213.6	491.1	685.2	5.9	(NA)	119.9	96	[illegible]
1976 ASM[6] ---	(NA)	(NA)	(NA)	6.7	62.1	5.5	9.1	37.8	163.5	357.6	527.1	11.9	63.2	84.5	(NA)	(NA)
1975 ASM[6] ---	(NA)	(NA)	(NA)	6.0	52.5	4.8	8.6	32.9	134.9	269.1	401.1	4.5	51.4	79.5	(NA)	(NA)
1974 ASM[6] ---	(NA)	(NA)	(NA)	7.5	60.6	6.0	11.0	38.5	144.9	297.4	443.1	5.1	53.0	84.7	(NA)	(NA)
1973 ASM[6] ---	(NA)	(NA)	(NA)	8.7	68.5	7.1	13.1	44.9	142.3	290.2	429.5	4.7	58.6	77.5	(NA)	(NA)
1972 Census--	567	567	87	8.0	55.7	6.7	12.5	36.3	116.4	216.4	323.3	5.3	54.7	62.1	95	[illegible]

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3911, JEWELRY, PRECIOUS METAL										
1977 Census--	10 258	(NA)	69	1 827	4.52	54	75	(NA)	23 267	44	18.37
1976 ASM----	10 051	(S)	70	1 822	4.44	54	77	(S)	20 237	49	15.72
1975 ASM----	9 706	(S)	70	1 833	4.25	54	77	(S)	19 642	49	15.11
1974 ASM----	9 046	(S)	71	1 853	3.88	56	78	(S)	19 752	45	14.85
1973 ASM----	8 507	(S)	72	1 913	3.45	54	75	(S)	18 477	46	13.28
1972 Census--	8 196	(S)	73	1 873	3.49	54	78	(S)	16 441	49	12.01
1971 ASM----	7 401	3 325	72	1 914	3.17	52	79	11	13 976	52	10.07
1970 ASM----	7 020	3 347	73	1 873	3.13	52	79	12	12 941	54	9.33
1969 ASM----	7 043	4 695	72	1 879	3.16	53	78	17	13 425	52	9.85
1968 ASM----	6 626	(S)	73	1 928	2.93	54	78	(S)	12 897	51	9.05
1967 Census--	6 107	(S)	76	1 934	2.57	53	78	(S)	11 795	51	7.99
1966 ASM----	5 505	(NA)	75	1 995	2.14	54	77	(NA)	11 191	49	7.40
1965 ASM----	5 098	(NA)	76	2 083	1.95	51	74	(NA)	11 059	46	6.98
1964 ASM----	5 572	2 078	72	2 057	2.32	53	80	9	9 958	55	6.66
1963 Census--	5 322	2 029	74	2 034	2.22	51	77	9	9 953	53	6.59
	INDUSTRY 3914, SILVERWARE AND PLATED WARE										
1977 Census--	11 054	(NA)	76	1 891	5.10	44	71	(NA)	23 548	46	16.25
1976 ASM----	11 100	13 700	75	2 000	4.80	47	72	31	21 266	52	14.07
1975 ASM----	9 787	13 117	74	1 742	4.81	44	69	33	19 244	50	14.82
1974 ASM----	9 626	10 607	78	1 940	4.44	48	75	30	19 102	50	12.53
1973 ASM----	8 748	9 039	78	1 950	4.10	51	78	28	16 204	53	10.55
1972 Census--	8 122	7 809	76	1 990	3.82	47	76	27	15 786	51	10.39
1971 ASM----	7 632	8 456	77	1 958	3.58	43	71	31	15 264	50	10.04
1970 ASM----	7 069	7 707	80	1 951	3.43	43	71	31	13 907	50	8.90
1969 ASM----	6 951	7 337	82	2 025	3.22	42	70	29	14 765	47	8.81
1968 ASM----	6 673	6 789	85	2 008	3.09	44	71	28	14 013	47	8.20
1967 Census--	6 429	6 053	84	2 095	2.89	43	71	26	13 288	48	7.50
1966 ASM----	6 185	(NA)	84	2 125	2.73	44	73	(NA)	12 556	49	6.97
1965 ASM----	5 836	(NA)	84	2 100	2.59	45	73	(NA)	11 340	51	6.39
1964 ASM----	5 517	4 860	83	2 042	2.53	46	76	26	9 580	57	5.63
1963 Census--	5 371	5 098	82	2 027	2.47	45	75	28	9 901	54	5.91
	INDUSTRY 3915, JEWELERS' MATERIALS AND LAPIDARY WORK										
1977 Census--	10 328	(NA)	81	1 786	4.22	71	84	(NA)	25 685	40	17.57
1976 ASM----	9 268	9 432	82	1 654	4.14	67	79	11	24 402	37	17.96
1975 ASM----	8 750	8 566	80	1 791	3.82	67	80	12	22 483	38	15.68
1974 ASM----	8 080	7 066	80	1 833	3.50	67	80	11	19 320	41	13.17
1973 ASM----	7 873	6 735	81	1 845	3.42	67	83	13	16 356	48	10.86
1972 Census--	6 963	6 838	84	1 865	2.90	66	84	16	14 550	47	9.31

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3911, JEWELRY, PRECIOUS METAL														
United States	**E1**	**2 206**	**405**	**42.1**	**432.0**	**29.2**	**53.3**	**241.4**	**979.8**	**1 154.9**	**2 107.0**	**25.6**	**32.6**	**536.0**
New England Division:														
Massachusetts	-	76	25	4.1	48.3	2.5	5.1	21.4	90.6	72.6	162.4	2.4	4.2	58 7
Rhode Island	-	295	59	9.9	76.3	6.8	12.0	48.0	190.1	189.3	370.2	9.8	6.2	94 8
Connecticut	-	15	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Middle Atlantic Division:														
New York	E1	759	171	12.9	153.5	8.9	16.1	80.9	346.0	551.0	893.2	7.4	11.6	216.7
New Jersey	E1	66	20	2.0	24.9	1.5	2.7	14.2	54.8	63.9	114.5	0.4	2.2	36 0
Pennsylvania	E3	64	7	0.5	5.5	0.4	0.7	3.1	11.0	16.0	26.8	0.2	0.4	6.9
East North Central Division:														
Ohio	E2	36	6	0.5	5.3	0.4	0.6	2.7	8.6	13.2	21.6	(D)	0.3	5.5
Indiana	E1	16	5	0.8	8.4	0.7	1.2	6.4	28.2	13.2	41.3	(D)	(NA)	(D)
Illinois	E1	47	7	0.7	8.5	0.5	1.0	5.1	18.7	17.7	35.7	0.5	0.7	12.2
Michigan	E1	34	4	0.3	3.8	0.2	0.4	2.4	8.8	7.9	16.5	(D)	0.4	6.6
West North Central Division:														
Minnesota	-	9	3	0.7	7.9	0.3	0.7	4.0	10.1	5.4	16.1	(D)	0.4	8.4
South Dakota	-	5	3	0.2	1.4	0.2	0.4	1.1	4.9	4.5	9.5	(D)	(NA)	(NA)
South Atlantic Division:														
Florida	E1	72	8	0.8	7.2	0.6	1.1	4.4	16.3	24.2	39.0	0.3	0.4	5.4
West South Central Division:														
Texas	-	58	12	1.9	18.2	1.3	2.5	9.6	49.4	36.0	83.4	(D)	(NA)	(D)
Mountain Division:														
Colorado	E1	34	6	0.3	2.6	0.3	0.4	1.8	4.7	4.5	9.1	(D)	(NA)	(NA)
New Mexico	E2	114	9	1.3	10.5	0.9	1.6	6.5	22.8	17.1	38.8	(D)	(NA)	(D)
Arizona	E2	44	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Utah	-	8	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
Washington	E1	35	8	0.5	4.9	0.4	0.6	3.1	10.1	7.4	16.5	(D)	(NA)	(D)
California	E1	254	25	2.4	24.8	1.8	3.4	15.8	67.0	58.1	122.6	(D)	1.3	25.8
Hawaii	E1	11	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
INDUSTRY 3914, SILVERWARE AND PLATED WARE														
United States	**-**	**258**	**67**	**10.8**	**119.8**	**8.3**	**15.7**	**80.2**	**255.1**	**205.4**	**457.0**	**8.0**	**13.1**	**206.8**
New England Division:														
Massachusetts	-	27	13	2.5	27.1	1.7	3.3	15.7	62.6	44.5	104.7	2.5	2.9	52.2
Rhode Island	-	8	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	19	10	2.0	23.1	1.6	3.0	16.5	54.0	48.3	97.9	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	41	11	2.7	31.8	2.3	4.4	25.1	64.8	57.9	119.6	(D)	3.6	54.3
New Jersey	E2	18	4	0.5	4.2	0.4	0.7	2.9	5.8	7.6	13.5	0.4	(NA)	(D)
Pennsylvania	E1	11	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	E1	12	2	0.2	2.3	0.2	0.4	1.9	5.4	4.7	9.7	(D)	(NA)	(NA)
Illinois	-	11	3	0.5	4.6	0.4	0.8	3.0	9.9	6.7	17.0	(D)	0.6	13.8
South Atlantic Division:														
Maryland	-	4	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	22	7	0.4	3.6	0.3	0.6	2.5	9.5	6.5	15.4	(D)	(NA)	(NA)
INDUSTRY 3915, JEWELERS' MATERIALS AND LAPIDARY WORK														
United States	**E1**	**654**	**92**	**8.3**	**85.9**	**6.8**	**12.2**	**51.3**	**213.6**	**491.1**	**685.2**	**5.9**	**8.0**	**116.4**
New England Division:														
Massachusetts	-	24	11	1.0	9.3	0.9	1.6	6.7	18.5	35.1	52.6	1.4	1.1	11.0
Rhode Island	E1	186	42	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	250	23	2.0	23.9	1.5	2.6	12.0	81.0	280.7	345.8	(D)	2.0	38 2
New Jersey	-	25	5	0.5	4.6	0.4	0.6	2.9	10.9	16.8	27.6	0 3	0.5	7 3
Pennsylvania	-	9	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	E2	36	2	0.2	1.6	0.1	0.2	0.9	3.4	6.5	9.8	0 1	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent, E5—50 to 59 percent, E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees, EE—1,000 to 2,499 employees, FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Jewelry, precious metal (SIC 3911)	Silverware and plated ware (SIC 3914)	Jewelers' materials and lapidary work (SIC 3915)
Primary product specialization ratio[1]	percent	92	93	D6
Coverage ratio[2]	do	97	98	89
All establishments	number	2 206	258	654
With 1 to 19 employees	do	1 801	191	562
With 20 to 99 employees	do	327	45	78
With 100 employees or more	do	78	22	14
All employees, average for year	1,000	42.1	10.8	8.3
Payroll for year, all employees	mil. dol.	432.0	119.8	85.9
Production workers:				
Average for year	1,000	29.2	8.3	6.8
March	do	28.4	8.2	6.5
May	do	28.5	8.1	6.7
August	do	28.8	8.3	6.8
November	do	31.1	8.6	7.1
Hours	millions	53.3	15.7	12.2
January to March	do	13.0	3.8	2.9
April to June	do	13.3	3.9	3.1
July to September	do	12.5	3.8	2.9
October to December	do	14.5	4.2	3.3
Wages	mil. dol.	241.4	80.2	51.3
Cost of materials, etc.	do	1 154.9	205.4	491.1
Materials, parts, containers, etc., consumed	do	1 041.6	172.9	470.0
Resales	do	58.2	20.5	3.6
Fuels consumed	do	2.4	4.3	0.9
Purchased electric energy	do	6.9	3.7	1.7
Contract work	do	45.6	4.1	14.9
Value of shipments, including resales	do	2 107.0	457.0	685.2
Value of resales	do	65.8	27.9	5.0
Value added by manufacture	do	979.8	255.1	213.6
Manufacturers' inventories:				
Beginning of year	do	437.4	136.8	96.5
Finished products	do	199.9	65.3	51.7
Work in process	do	99.3	36.1	23.1
Materials, supplies, fuel, etc.	do	138.3	35.4	21.7
End of year	do	489.8	142.8	119.9
Finished products	do	217.0	68.3	63.8
Work in process	do	109.8	36.7	30.5
Materials, supplies, fuel, etc.	do	162.9	37.9	25.6
Capital expenditures for plant and equipment	do	27.7	8.4	7.4
New capital expenditures	do	25.6	8.0	5.9
New buildings and other structures	do	7.9	0.7	1.6
New machinery and equipment	do	17.8	7.3	4.4
Used capital expenditures	do	2.1	0.4	1.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Jewelry, precious metal (SIC 3911)		Silverware, and platedware (SIC 3914)		Jewelers' materials, and lapidary work (SIC 3915)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:						
Cost of purchased services for repair of--						
Buildings and other structures	(1.1)	20	(D)	27	(D)	47
Response coverage ratio[2] (percent)	58	(X)	56	(X)	63	(X)
Machinery	2.1	8	2.0	7	(D)	26
Response coverage ratio[2] (percent)	60	(X)	63	(X)	57	(X)
Cost of purchased communication services	4.3	11	(1.1)	26	(1.1)	29
Response coverage ratio[2] (percent)	61	(X)	64	(X)	56	(X)
Rental payments	13.4	8	3.2	8	(2.3)	17
Buildings and other structures	9.1	8	1.6	12	(2.0)	22
Machinery and equipment	4.3	11	1.6	7	(0.4)	30
Supplemental labor costs	50.8	2	26.3	5	9.9	7
Legal costs	30.2	2	11.2	4	5.9	6
Voluntary costs	20.6	4	15.1	6	4.0	11
Gross value of depreciable assets:						
Buildings and other structures:						
Beginning of year	(62.1)	16	45.6	6	12.0	4
New capital expenditures	6.0	8	(0.8)	45	(0.4)	47
Used capital expenditures	(1.1)	23	0.3	1	(0.2)	86
Retirements	(2.2)	16	(0.5)	23	(0.1)	38
End of year	67.0	14	46.2	7	12.5	4
Machinery and equipment:						
Beginning of year	147.5	6	93.5	3	45.9	11
New capital expenditures	22.9	12	6.6	4	(4.6)	18
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(D)	(A)
All other[3]	(16.9)	(A)	(5.7)	(A)	(3.1)	(A)
New machinery and equipment, n.s.k.[4]	(4.8)	(A)	(D)	(A)	(D)	(A)
Used capital expenditures	(1.8)	50	(0.3)	47	(0.7)	45
Retirements	(11.3)	39	2.7	12	4.2	7
End of year	161.0	5	97.6	3	47.0	12
Total gross value of depreciable assets:						
Beginning of year	209.6	6	139.1	3	57.9	12
New capital expenditures	28.9	10	7.4	5	(5.1)	16
Used capital expenditures	(3.0)	32	(0.5)	24	(1.0)	52
Retirements	(13.5)	34	3.2	13	4.5	8
End of year	228.0	5	143.8	3	59.5	11
Depreciation charges during 1977	(19.7)	15	7.6	2	(7.0)	32
Buildings and other structures	(2.9)	15	1.4	10	(2.9)	80
Machinery and equipment	(16.8)	15	6.3	3	4.1	12

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3911, JEWELRY, PRECIOUS METAL												
Total	**E1**	**2 206**	**42.1**	**432.0**	**29.2**	**53.3**	**241.4**	**979.8**	**1 154.9**	**2 107.0**	**25.6**	**489.8**
Establishments with an average of—												
1 to 4 employees	E7	1 197	1.8	19.8	1.6	2.3	11.0	42.5	50.8	93.3	0.8	20.9
5 to 9 employees	E2	329	2.2	23.9	1.5	2.7	13.3	51.4	69.5	119.0	1.0	26.6
10 to 19 employees	E1	275	3.7	40.4	2.5	4.6	22.1	80.8	105.6	183.3	3.7	39.2
20 to 49 employees	E1	245	7.5	78.0	5.4	9.6	44.5	174.8	223.8	391.6	3.6	75.6
50 to 99 employees	E1	82	5.7	63.1	4.2	7.8	37.0	130.4	157.1	282.8	2.6	65.3
100 to 249 employees	-	58	9.3	94.0	7.0	13.3	57.5	224.1	251.4	465.2	6.9	94.1
250 to 499 employees	-	13	4.2	47.5	2.5	4.8	20.9	138.8	190.4	334.7	1.9	104.2
500 to 999 employees	-	4	(7.8)	(65.3)	(4.4)	(8.2)	(35.0)	(137.0)	(106.3)	(237.0)	(5.2)	(63.9)
1,000 to 2,499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1 089	2.1	21.8	1.7	2.6	12.1	44.4	52.8	97.1	0.9	22.0
INDUSTRY 3914, SILVERWARE AND PLATED WARE												
Total	**-**	**258**	**10.8**	**119.8**	**8.3**	**15.7**	**80.2**	**255.1**	**205.4**	**457.0**	**8.0**	**142.8**
Establishments with an average of—												
1 to 4 employees	E8	122	0.2	1.7	0.1	0.2	1.1	3.7	3.1	6.9	0.1	2.1
5 to 9 employees	E8	40	0.3	2.9	0.2	0.4	1.9	5.7	5.0	10.7	0.2	3.3
10 to 19 employees	E8	29	0.4	4.1	0.3	0.6	2.7	8.1	7.2	15.4	0.2	4.6
20 to 49 employees	-	32	1.0	8.8	0.8	1.4	6.0	19.1	12.8	32.4	0.4	6.8
50 to 99 employees	-	13	0.9	9.8	0.7	1.5	7.2	18.6	13.1	31.6	0.3	6.6
100 to 249 employees	-	13	2.0	19.6	1.5	2.8	12.1	43.1	46.0	87.0	(6.9)	27.3
250 to 499 employees	-	4	1.5	16.6	1.1	1.9	8.6	40.9	27.1	66.1	(D)	21.2
500 to 999 employees	-	4	(4.6)	(56.2)	(3.6)	(6.8)	(40.6)	(115.9)	(91.0)	(207.0)	(D)	(71.0)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	154	0.7	7.3	0.5	1.0	4.7	14.2	12.6	26.8	0.4	8.2
INDUSTRY 3915, JEWELERS' MATERIALS AND LAPIDARY WORK												
Total	**E1**	**654**	**8.3**	**85.9**	**6.8**	**12.2**	**51.3**	**213.6**	**491.1**	**685.2**	**5.9**	**119.9**
Establishments with an average of—												
1 to 4 employees	E4	383	0.6	7.0	0.6	0.9	4.0	20.4	61.0	80.4	0.4	10.3
5 to 9 employees	E1	99	0.7	7.7	0.5	0.9	4.4	19.5	71.0	93.8	0.4	13.4
10 to 19 employees	E1	80	1.0	9.2	0.8	1.2	5.0	29.8	92.9	117.7	0.4	22.8
20 to 49 employees	-	53	1.7	17.8	1.3	2.4	10.1	45.9	93.8	126.9	1.4	27.2
50 to 99 employees	-	25	1.7	18.0	1.3	2.5	10.1	40.7	74.4	113.3	0.9	17.9
100 to 249 employees	-	10	1.2	11.6	1.1	1.8	7.7	24.6	39.4	63.8	1.2	10.6
250 to 499 employees	-	4	1.4	14.5	1.2	2.4	10.0	32.6	58.6	89.4	1.2	17.5
Covered by administrative records[2]	E0	321	0.5	5.9	0.5	0.8	3.3	14.7	28.3	43.0	0.4	6.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3911	**Jewelry, precious metal:**										
	Entire industry	2 206	42.1	432.0	29.2	53.3	241.4	979.8	1 154.9	2 107.0	25.6
	Establishments with 75 percent specialization or more	2 118	37.1	379.9	25.7	46.6	211.2	823.8	948.9	1 744.8	21.0
39111	Jewelry made of platimum metals and karat gold:										
	Establishments with this product class primary	548	23.3	270.4	15.7	29.9	142.8	614.3	802.7	1 399.7	11.9
	Establishments with 75 percent specialization or more in class	474	19.1	224.8	12.8	24.3	118.3	483.8	584.3	1 046.3	9.8
39112	Other jewelry made of precious metals:										
	Establishments with this product class primary	174	11.5	89.1	8.0	14.3	57.1	210.9	187.4	388.7	10.3
	Establishments with 75 percent specialization or more in class	125	7.6	51.0	5.1	8.8	32.3	114.3	107.3	217.4	5.8
3914	**Silverware and plated ware:**										
	Entire industry	258	10.8	119.8	8.3	15.7	80.2	255.1	205.4	457.0	8.0
	Establishments with 75 percent specialization or more	245	9.8	109.9	7.4	13.9	72.5	231.5	188.1	417.2	6.3
39141	Silverware, plated ware, and stainless steel ware:										
	Establishments with this product class primary	41	4.5	46.1	3.4	6.4	30.0	95.9	66.8	168.3	3.3
	Establishments with 75 percent specialization or more in class	34	2.9	27.7	2.3	4.4	19.8	57.8	43.7	100.6	1.8
39142	Flatware:										
	Establishments with this product class primary	26	5.4	64.3	4.2	7.9	44.1	141.0	122.5	254.2	4.2
	Establishments with 75 percent specialization or more in class	15	3.5	40.9	2.8	5.2	29.1	90.9	73.2	157.2	(D)
3915	**Jewelers' materials and lapidary work:**										
	Entire industry	654	8.3	85.9	6.8	12.2	51.3	213.6	491.1	685.2	5.9
	Establishments with 75 percent specialization or more	619	7.0	73.3	5.7	10.2	43.0	188.4	461.8	632.2	5.1
39151	Jewelers' findings and materials:										
	Establishments with this product class primary	142	5.3	53.0	4.3	8.0	33.1	113.3	201.3	309.3	3.7
	Establishments with 75 percent specialization or more in class	123	4.2	42.0	3.4	6.3	25.8	92.4	175.2	262.5	3.0
39152	Lapidary work and diamond cutting and polishing:										
	Establishments with this product class primary	63	1.1	13.2	0.8	1.4	6.7	49.6	215.2	250.9	1.1
	Establishments with 75 percent specialization or more in class	59	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3911	Jewelry, precious metal.....1977..	2,107.0	1,850.8	170.8	85.4	92	1,907.7	1,850.8	56.9	97
	1972..	1,124.6	947.1	79.2	98.3	92	981.8	947.1	34.7	96
	1967..	741.8	609.1	62.9	69.8	91	633.2	609.1	24.1	96
3914	Silverware and plated ware.....1977..	457.0	396.1	28.7	32.2	93	403.2	396.1	7.1	98
	1972..	377.4	307.5	18.1	51.8	94	317.5	307.5	10.0	97
	1967..	339.1	302.8	15.4	20.9	95	305.4	302.8	2.6	99
3915	Jewelers' materials and lapidary work.....1977..	685.2	642.9	25.0	17.3	96	726.0	642.9	83.1	89
	1972..	323.3	289.5	13.9	19.9	95	336.2	289.5	46.7	86
	1967..	218.1	184.7	16.6	16.8	92	213.2	184.7	28.5	87

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Jewelry, precious metal (SIC 3911)	Silverware and plated ware (SIC 3914)	Jewelers' materials and lapidary work (SIC 3915)	Other industries
	Total	(X)	2,107.0	457.0	685.2	(X)
	Primary products	(X)	1,850.8	396.1	642.9	(X)
	Secondary products	(X)	170.8	28.7	25.0	(X)
	Miscellaneous receipts	(X)	85.4	32.2	17.3	(X)
3911-	Jewelry, precious metal	1,907.7	1,850.8	(D)	14.8	39.5
39111	Jewelry made of platinum metals and karat gold	1,251.5	1,225.5	(D)	8.8	16.7
39112	Other jewelry made of precious metals	353.0	325.5	(D)	6.0	21.0
39110	Jewelry, precious metal, n.s.k	303.2	299.8	(D)	-	1.9
3914-	Silverware and plated ware	403.2	(D)	396.1	-	(D)
39141	Silverware, plated ware, and stainless steel ware	175.2	(D)	170.6	-	(D)
39142	Flatware	193.2	(D)	190.7	-	(D)
39140	Silverware and plated ware, n.s.k	34.7	-	34.7	-	-
3915-	Jewelers' materials and lapidary work	726.0	72.4	-	642.9	10.7
39151	Jewelers' findings and materials	305.5	(D)	-	281.9	(D)
39152	Lapidary work and diamond cutting and polishing	305.6	(D)	-	246.4	(D)
39150	Jewelers' materials and lapidary work, n.s.k	114.9	-	-	114.5	.3
	Other shipments by 4-digit product group:					
2499-	Wood products, n.e.c	(X)	-	(D)	-	(X)
2875-	Fertilizers, mixing only	(X)	-	(D)	-	(X)
3079-	Miscellaneous plastics products	(X)	-	(D)	-	(X)
3356-	Nonferrous rolling and drawing, n.e.c	(X)	-	-	-	(X)
3362-	Brass, bronze, and copper castings	(X)	(D)	(D)	-	(X)
3421-	Cutlery	(X)	-	(D)	-	(X)
3469-	Metal stampings, n.e.c	(X)	-	(D)	-	(X)
3523-	Farm machinery and equipment	(X)	-	(D)	-	(X)
3679-	Electronic components, n.e.c	(X)	-	-	(D)	(X)
3691-	Storage batteries	(X)	-	-	(D)	(X)
3873-	Watches, clocks, and watchcases	(X)	(D)	-	-	(X)
3961-	Costume jewelry	(X)	(D)	-	(D)	(X)
	Miscellaneous receipts:					
93000 00	Contract work	(X)	10.4	2.0	6.6	(X)
99980 98	Other miscellaneous receipts	(X)	9.2	2.3	5.0	(X)
99989 00	Resales	(X)	65.8	27.9	5.0	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3911-	3873 Watches, clocks, and watchcases	(D)
	3961 Costume jewelry	25.0
3915-	3961 Costume jewelry	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified.
n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	JEWELRY, PRECIOUS METAL			
3911- --	Total	(NA)	1,097.7	981.8
39111 --	Jewelry made of platinum metals and karat gold	(NA)	1,251.5	656.7
	Rings and ring mountings:			
	Rings (complete):			
39111 11	Fraternal, college, and school rings	24	172.1	(2)
39111 12	Wedding rings	78	133.2	109.2
39111 14	Other rings	167	312.6	2248.9
39111 15	Ring mountings, for sale separately	52	69.3	68.0
39111 31	Women's and children's jewelry, such as necklaces, bracelets, brooches, pins, clips, earrings, lockets, etc., excluding watch attachments and rings	194	327.8	133.1
39111 41	Watch attachments (bracelets for watches)	20	31.4	21.0
39111 51	Organizational jewelry, including fraternal, college, and school jewelry and emblems; and military insignia, excluding rings	25	44.7	25.7
39111 98	Other jewelry worn or carried about the person, such as men's jewelry (collar and cuff buttons, studs, watch chains, etc.); religious jewelry (rosaries, chaplets, crosses, etc.); cigar and cigarette cases and lighters; compacts, vanity cases, etc	67	52.3	43.4
39111 00	Jewelry made of platinum metals and karat gold, n.s.k.	(NA)	3108.0	7.4
39112 --	Jewelry made of precious metals, except platinum metals and karat gold	(NA)	353.0	178.5
	Jewelry made of gold filled and rolled gold plate and sterling silver:			
39112 11	Rings and ring mountings	38	35.3	39.4
39112 21	Men's jewelry, such as collar and cuff buttons, studs, watch chains, money clips, identification bracelets, scarf pins, and tie and collar holders, etc., excluding watch attachments and rings	28	33.0	12.7
39112 31	Women's and children's jewelry, such as necklaces, bracelets, brooches, pins, clips, earrings, and lockets, excluding watch attachments and rings	102	184.3	65.2
39112 41	Watch attachments (bracelets for watches)	9	38.1	32.8
39112 98	Other jewelry worn or carried about the person, such as fraternal, college, and school jewelry and emblems, excluding rings; military insignia; religious jewelry (rosaries, chaplets, crosses, etc.); cigar and cigarette cases and lighters; compacts, vanity cases, etc	46	38.1	21.8
39112 00	Jewelry made of precious metals, except platinum metals and karat gold, n.s.k.	(NA)	324.1	6.6
39110 00	Jewelry, precious metal, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	206.0	65.1
39110 02	Jewelry, precious metal, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	97.1	81.5

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity	Value (million dollars)	Quantity	Value (million dollars)
	SILVERWARE AND PLATED WARE						
3914- --	Total		(NA)	(X)	403.2	(X)	317.5
39141 --	Hollow ware, including toilet ware, ecclesiastical ware, novelties, trophies, baby goods, and other plated ware		(NA)	(X)	175.2	(X)	154.3
39141 11	Sterling silver		17	(X)	40.1	(X)	31.7
39141 31	Electrosilver plated		16	(X)	83.1	(X)	89.9
39141 51	Stainless steel		4	(X)	1.8	(X)	4.4
39141 53	Pewter		15	(X)	19.6	(X)	24.3
39141 66	Unplated hollow ware of other metals and hollow ware plated with metals other than silver, stainless steel, and pewter.		15	(X)	30.6	(X)	
39141 00	Hollow ware, n.s.k		(NA)	(X)	.1	(X)	4.0
39142 --	Flatware, including all knives, forks, spoons, and carving sets made wholly of metal		(NA)	(X)	193.2	(X)	153.3
39142 11	Sterling silver	1,000 dozens	14	469	80.6	1,060	67.4
	Electrosilver plated:						
39142 34	Institutional		4	1,209	15.2	3,570	19.9
39142 36	Noninstitutional		6	(S)	12.1		
	Stainless steel:						
39142 54	Institutional		8	15,706	78.3	8,647	16.6
39142 56	Noninstitutional		7			14,721	48.1
39142 61	Unplated flatware of other metals and flatware plated with metals other than silver, including partly finished flatware	1,000 dozens	9	(S)	7.1	(X)	1.3
39142 00	Flatware, n.s.k		(NA)	(X)	-	(X)	-
39140 00	Silverware and plated ware, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	7.9	(X)	3.8
39140 02	Silverware and plated ware, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	26.8	(X)	6.1

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

(Includes value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	1977		1972
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Value of product shipments (million dollars)
	JEWELERS' MATERIALS AND LAPIDARY WORK			
3915- --	Total	(NA)	726.0	336.2
39151 --	Jewelers' findings and materials	(NA)	305.5	142.5
39151 13	Jewelers' findings, such as joints, pins, clasps, spring rings, ring blanks, and other unassembled parts	82	189.4	68.6
39151 31	Machine chain	26	79.0	25.5
39151 41	Gold filled and rolled goldplate materials	10	[4]19.7	30.7
39151 51	Stock shop products, such as flat stock, wire, and tubing	11		11.9
39151 00	Jewelers' findings and materials, n.s.k., for establishments with 10 employees or more. (see note.)	(NA)	17.5	5.8
39152 --	Lapidary work and diamond cutting and polishing	(NA)	305.6	132.8
	Stones cut or polished in the plant from materials owned by the plant:			
39152 11	Diamonds for jewelry purposes	34	284.7	120.1
39152 15	Diamonds for industrial purposes	3	11.0	10.6
39152 31	Other natural precious and semiprecious stones and synthetic stones, including drilling of pearls	9		
39152 00	Lapidary work and diamond cutting and polishing, n.s.k.	(NA)	9.9	2.1
39150 00	Jewelers' materials and lapidary work, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	71.9	23.4
39150 02	Jewelers' materials and lapidary work, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	43.0	37.5

Note: In the 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative record data rather than data actually collected from respondents. The employment cutoff used for administrative records for each industry and the shipments figures are included in the code ending with "002." In both the 1977 and 1972 Censuses of Manufactures, products not completely identified on the standard forms were coded in the appropriate product class (5 digits) followed by "00" or, in some cases, to the appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For 1972, product code 39111 11 was included with product code 39111 14.

[3]In 1977, small establishments generally with 5 to 20 employees reported on short forms, which requested only product class totals. These data are included in codes ending with "00." Thus 1977 data for product codes (7 digits) may not be completely comparable with 1972 data.

[4]Excludes products made by establishments classified in Industry 3356, Nonferrous Rolling and Drawing, N.E.C. Historically, some establishments supplying jewelry manufacturing industry with precious metals have been erroneously classified in industry 3915; thus, 1977 data are not comparable with 1972 data.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
39111, JEWELRY MADE OF PLATINUM METALS AND KARAT GOLD		
United States	1,251.5	656.7
New England Division:		
Massachusetts	105.6	59.5
Rhode Island	102.1	48.4
Middle Atlantic Division:		
New York	608.2	338.5
New Jersey	82.7	51.7
Pennsylvania	14.9	5.2
East North Central Division:		
Ohio	12.7	4.4
Illinois	31.2	18.9
Michigan	11.6	11.6
West North Central Division:		
Minnesota	14.7	EE
Missouri	3.9	BB
South Atlantic Division:		
Florida	22.9	11.1
West South Central Division:		
Texas	63.0	FF
Pacific Division:		
Washington	6.9	1.7
Oregon	2.2	BB
California	81.9	29.5
Hawaii	2.4	(NA)
39112, OTHER JEWELRY MADE OF PRECIOUS METALS		
United States	353.0	178.5
New England Division:		
Massachusetts	33.5	FF
Rhode Island	191.0	87.0
Middle Atlantic Division:		
New York	51.1	28.8
New Jersey	17.0	EE
East North Central Division:		
Ohio	2.5	(NA)
South Atlantic Division:		
Florida	8.0	(NA)
Mountain Division:		
Colorado	2.6	(NA)
New Mexico	14.8	BB
Arizona	2.9	(NA)
39112, OTHER JEWELRY MADE OF PRECIOUS METALS--Con.		
Pacific Division:		
Washington	3.0	(NA)
California	9.5	(NA)
39141, SILVERWARE, PLATED WARE, AND STAINLESS STEEL WARE		
United States	175.2	154.3
New England Division:		
Massachusetts	52.9	46.6
Connecticut	37.5	CC
Middle Atlantic Division:		
New York	23.0	27.4
New Jersey	6.7	8.2
Pennsylvania	5.8	1.3
East North Central Division:		
Illinois	13.1	EE
39142, FLATWARE		
United States	193.2	153.3
New England Division:		
Massachusetts	37.9	28.8
39151, JEWELERS' FINDINGS AND MATERIALS		
United States	305.5	142.5
New England Division:		
Rhode Island	139.5	61.4
Middle Atlantic Division:		
New York	79.2	32.7
New Jersey	26.7	EE
39152, LAPIDARY WORK AND DIAMOND CUTTING AND POLISHING		
United States	305.6	132.8
Middle Atlantic Division:		
New York	271.3	GG
Pacific Division:		
California	3.3	(NA)

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3911-	Jewelry, precious metal	1,907.7	1,527.6	1,318.1	1,227.9	1,174.7	981.8	633.2	400.4
39111	Jewelry made of platinum metals and karat gold	1,251.5	1,047.1	898.8	814.1	808.0	656.7	426.2	286.3
39112	Other jewelry made of precious metals	353.0	301.3	281.1	254.9	208.1	178.5	125.8	93.7
39110	Jewelry, precious metal, n.s.k.	303.2	(179.2)	(138.2)	158.9	158.6	146.6	81.2	20.4
3914-	Silverware and plated ware	403.2	353.2	332.5	338.9	344.8	317.5	305.4	211.9
39141	Silverware, plated ware, and stainless steel ware	175.2	179.5	173.4	158.1	186.0	154.3	126.3	93.9
39142	Flatware	193.2	178.1	143.9	154.7	143.0	153.3	166.8	113.2
39140	Silverware and plated ware, n.s.k.	34.7	(2)	(15.2)	(26.1)	(15.8)	9.9	12.3	4.8
3915-	Jewelers' materials and lapidary work	726.0	561.0	412.5	418.4	376.6	336.2	213.2	138.2
39151	Jewelers' findings and materials	305.5	308.4	250.7	215.2	183.4	142.5	115.6	70.5
39152	Lapidary work and diamond cutting and polishing	305.6	222.4	150.1	183.5	188.1	132.8	97.6	67.7
39150	Jewelers' materials and lapidary work, n.s.k.	114.9	(30.2)	(11.7)	(19.7)	(5.1)	60.8	(NA)	(NA)

(NA) Not available. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated figure is negative. This is consequence of using difference method of estimation (see Estimating Procedures in appendix B) and of improved establishment reporting that resulted in changing classification of shipments from n.s.k. code for 1972 Census to specified 5-digit product classes for this year. Four-digit total is best estimate, even though smaller than sum of 5-digit values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost[2] (million dollars)
	INDUSTRY 3911, JEWELRY, PRECIOUS METAL					
	Materials, parts, containers, and supplies	.....	(X)	1,041.6	(X)	510.9
333903	Precious metals, all forms, including ingot, sheet, strip, solder, plating, electrodes, etc.	Troy ounces	(S)	390.1	(X)	291.0
391521	Precious, semiprecious, and synthetic stones, and pearls; cut, polished, or drilled.	.....	(X)	222.4	(X)	104.0
391561	Jewelers' findings, including joints, pins, clasps, chains, flat stock, etc.	.....	(X)	78.9	(X)	35.0
260001	Paper and paperboard products, including shipping containers, setup and folding cartons, etc.	.....	(X)	15.7	(X)	2.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	39.2	(X)	78.9
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)	295.3	(X)	
	INDUSTRY 3914, SILVERWARE AND PLATED WARE					
	Materials, parts, containers, and supplies	.....	(X)	172.9	(X)	142.4
	Mill shapes and forms:					
331001	Carbon steel	1,000 s. tons	1.5	.9		
331020	Alloy steel		.8	1.8		
	Stainless steel:				29.4	25.2
331033	Sheet and strip		**9.8	16.1		
331050	All other stainless steel mill shapes and forms	1,000 s. tons	*1.8	3.3		
335105	Copper and copper-base alloy	Million lb	11.8	13.7	17.2	13.5
333903	Precious metals, all forms, including ingot sheet, strip, solder, plating, electrodes, etc.	.....	(X)	60.5	(X)	44.1
970099	All other materials and components, parts, containers, and supplies	.....	(X)	76.6	(X)	37.2
971000	Materials, parts, containers, and supplies, n.s.k.[3]	.....	(X)		(X)	22.4
	(Materials consumed data were not collected for industry 3915)					

n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[3]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form and establishments reporting on short form that did not include material inquiry.

Musical Instruments and Parts; Toys and Sporting Goods

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DESCRIPTION OF INDUSTRIES

MUSICAL INSTRUMENTS AND PARTS; TOYS AND SPORTING GOODS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3931	Musical Instruments
3942	Dolls
3944	Games, Toys, and Children's Vehicles
3949	Sporting and Athletic Goods, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishments as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3931, MUSICAL INSTRUMENTS

This industry comprises establishments primarily engaged in the manufacture of pianos, with or without player attachments, organs, other musical instruments, and parts and accessories for musical instruments.

The total value of shipments for establishments classified in the Musical Instruments industry amounted to $925 million in 1977, an increase of 50 percent from 1972. The value of shipments of products classified as primary to the industry was $879 million, an increase of 67 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $488 million in 1977, was 44 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.2 thousand employees, an increase of 3 percent from 1972. The leading States in employment were Illinois, Indiana, California, and New York, accounting for approximately 45 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3942, DOLLS

This industry comprises establishments primarily engaged in the manufacture of dolls, doll parts, and doll clothing. Establishments primarily engaged in the manufacture of stuffed toy animals are also included in this industry.

The total value of shipments for establishments classified in the Dolls industry amounted to $340 million in 1977, an increase of 71 percent from 1972. The value of shipments of products classified as primary to the industry was $508 million, an increase of 83 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $182 million in 1977, was 85 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 9.1 thousand employees, a decrease of 11 percent from 1972. The leading States in employment were New York, New Jersey, California, and Minnesota, accounting for approximately 70 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 9 percent of total value of shipments.

INDUSTRY 3944, GAMES, TOYS, AND CHILDREN'S VEHICLES

This industry comprises establishments primarily engaged in the manufacture of games and game sets for adults and children, such as chess, checkers, dominoes, puzzles, and mechanical and nonmechanical toys. This industry also includes establishments primarily engaged in the manufacture of toys, such as toy furniture, doll carriages and carts, construction sets, mechanical trains, toy guns and air rifles, and other mechanical games and toys; baby carriages and strollers; children's velocipedes and tricycles, coaster wagons, play cars, sleds, and other children's outdoor wheel goods and vehicles, except bicycles. Establishments primarily engaged in the manufacture of dolls are classified in industry 3942, sporting and athletic goods for children and adults in industry 3949, and bicycles in industry 3751.

The total value of shipments for establishments classified in the Games, Toys, and Children's Vehicles industry amounted to $2,720 million in 1977, an increase of 56 percent from 1972. The value of shipments of products classified as primary to the industry was $2,333 million, an increase of 55 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,545 million in 1977, was 58 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 53.1 thousand employees, a decrease of 14 percent from 1972. The leading States in employment were New York, California, Illinois, and Massachusetts, accounting for approximately 55 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3949, SPORTING AND ATHLETIC GOODS, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of sporting and athletic goods, not elsewhere classified, such as fishing tackle; golf and tennis goods; baseball, football, basketball, and boxing equipment; roller skates and ice skates; gymnasium and playground equipment; billiard and pool tables; and bowling alleys and equipment. Establishments primarily engaged in the manufacture of athletic apparel are classified in major group 23, small arms ammunition in industry 3482, and firearms in industry 3484.

The total value of shipments for establishments classified in the Sporting and Athletic Goods, N.E.C. industry amounted to $2,425 million in 1977, an increase of 40 percent from 1972. The value of shipments of products classified as primary to the industry was $2,217 million, an increase of 44 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,274 million in 1977, was 38 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 57.2 thousand employees, a decrease of 6 percent from 1972. The leading States in employment were California, Illinois, Massachusetts, and New York, accounting for approximately 35 percent of the industry's 1977 employment. Data for Illinois and Massachusetts have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 7 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3931, MUSICAL INSTRUMENTS																
1977 Census--	400	450	127	25.2	259.7	20.6	38.2	178.2	488.2	428.9	924.9	13.8	(NA)	243.2	98	98
1976 ASM----	(NA)	(NA)	(NA)	26.4	242.2	21.4	41.0	169.1	537.7	411.6	925.2	15.6	166.0	247.2	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	25.3	219.4	20.3	38.1	151.8	392.0	362.1	773.7	15.8	154.1	200.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	29.6	234.3	23.9	45.7	172.8	441.1	385.7	806.0	13.7	138.7	227.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	25.8	195.7	20.6	40.3	147.4	379.0	350.9	714.9	10.9	133.4	178.3	(NA)	(NA)
1972 Census--	310	344	111	24.5	173.4	19.7	38.3	123.9	339.3	296.6	617.5	10.6	134.9	151.6	97	99
1971 ASM----	(NA)	(NA)	(NA)	20.3	145.8	16.1	30.0	100.1	270.1	233.2	506.5	9.3	119.6	128.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	21.1	142.1	16.7	31.5	94.9	243.0	221.8	475.6	9.8	112.7	129.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	24.5	154.6	19.7	38.0	110.2	281.3	237.3	507.6	10.6	119.6	135.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	23.4	145.2	19.1	37.4	102.9	248.6	215.7	468.2	8.7	105.9	118.1	(NA)	(NA)
1967 Census--	304	343	121	24.9	143.7	20.8	39.9	106.0	237.8	202.4	434.3	10.6	99.3	123.6	97	98
1966 ASM----	(NA)	(NA)	(NA)	25.1	139.8	20.5	41.9	103.5	248.2	204.4	437.3	7.2	(NA)	108.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	23.6	124.6	19.5	39.3	93.3	229.5	178.6	403.9	10.6	(NA)	80.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	21.7	115.0	17.7	37.2	85.7	189.7	163.7	352.3	6.3	72.6	68.7	(NA)	(NA)
1963 Census--	288	320	126	20.1	103.0	16.7	33.6	76.5	179.0	143.1	314.4	5.8	65.7	63.7	97	92
INDUSTRY 3942, DOLLS																
1977 Census--	222	231	88	9.1	65.3	8.0	13.3	43.5	181.6	171.6	340.2	6.4	(NA)	62.5	94	59
1976 ASM----	(NA)	(NA)	(NA)	9.5	59.0	8.3	13.0	39.6	131.4	114.1	243.4	9.9	32.1	40.6	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.9	54.5	7.9	13.3	38.8	110.3	100.3	214.8	3.3	23.2	34.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.7	61.0	9.4	16.2	44.5	135.1	123.8	253.3	4.5	32.4	49.5	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.2	51.1	8.2	14.6	36.5	91.5	108.8	195.6	1.8	26.9	34.8	(NA)	(NA)
1972 Census--	237	243	105	10.2	54.0	9.0	16.2	38.6	98.3	101.5	199.1	1.7	33.5	30.9	99	68
1971 ASM[6]---	(NA)	(NA)	(NA)	8.6	44.5	7.5	13.9	31.1	86.3	86.4	170.7	4.9	33.3	26.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	9.3	44.1	8.2	14.8	31.5	83.7	85.9	168.3	1.6	30.5	22.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	11.2	47.1	10.1	17.3	35.0	79.9	82.7	164.8	1.8	(S)	18.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	11.4	47.3	10.3	17.6	35.2	78.9	77.8	158.0	1.2	22.9	16.0	(NA)	(NA)
1967 Census--	331	340	138	11.9	46.4	10.7	18.4	34.3	82.8	80.0	162.8	2.4	24.3	16.4	99	70
1966 ASM----	(NA)	(NA)	(NA)	11.6	41.2	10.5	18.5	32.0	74.7	75.4	150.2	1.6	(NA)	14.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.8	45.4	11.5	19.9	34.4	83.7	78.7	161.6	2.8	(NA)	16.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	13.4	47.3	12.3	21.4	36.5	93.3	80.6	173.0	1.9	23.0	17.3	(NA)	(NA)
1963 Census--	404	410	160	16.2	59.0	13.9	24.4	41.8	138.1	114.4	247.9	6.3	21.2	27.2	(D)	87
INDUSTRY 3944, GAMES, TOYS, AND CHILDREN'S VEHICLES																
1977 Census--	754	800	251	53.1	520.6	39.2	73.1	295.0	1 544.6	1 205.6	2 719.7	78.5	(NA)	437.7	86	93
1976 ASM----	(NA)	(NA)	(NA)	49.8	448.2	38.3	71.1	269.6	1 271.6	949.3	2 199.4	82.7	536.4	336.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	49.2	414.9	37.7	69.3	241.2	1 043.7	857.3	1 948.8	58.5	558.9	327.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	60.0	452.9	47.0	90.7	274.5	1 087.7	932.1	1 984.3	69.8	544.1	430.2	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	63.8	442.1	51.1	94.0	280.3	1 000.3	901.0	1 935.3	77.4	527.3	356.6	(NA)	(NA)
1972 Census--	619	664	284	61.5	421.0	48.3	91.9	269.1	980.6	761.7	1 734.3	72.7	464.7	295.1	86	92
1971 ASM----	(NA)	(NA)	(NA)	57.0	370.8	45.1	84.6	228.7	869.7	674.1	1 540.6	48.4	427.9	284.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	65.1	377.0	52.5	96.6	235.6	915.2	713.0	1 614.0	47.4	398.3	285.0	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	64.9	352.6	54.1	99.5	234.1	836.4	664.7	1 485.3	50.6	365.7	247.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	63.9	323.0	43.1	97.7	219.3	770.0	601.4	1 357.0	42.5	324.9	202.7	(NA)	(NA)
1967 Census--	(NA)	729	353	58.8	284.3	49.2	93.0	192.0	653.0	531.5	1 192.2	37.2	294.4	173.3	87	92
1966 ASM----	(NA)	(NA)	(NA)	67.3	303.0	56.6	110.2	202.2	669.4	592.4	1 253.0	33.2	(NA)	201.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	67.7	296.1	57.3	110.0	199.2	620.1	587.2	1 888.6	34.9	(NA)	184.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	59.0	253.1	49.1	96.0	172.6	542.3	470.2	1 007.0	32.0	236.7	154.5	(NA)	(NA)
1963 Census--	(NA)	861	382	56.3	226.1	47.8	92.0	159.5	479.4	403.8	874.1	29.6	236.5	147.0	90	88
INDUSTRY 3949, SPORTING AND ATHLETIC GOODS, N.E.C.																
1977 Census--	1 757	1 879	496	57.2	525.9	46.1	85.9	358.6	1 273.6	1 182.0	2 425.2	62.7	(NA)	579.1	95	94
1976 ASM----	(NA)	(NA)	(NA)	60.0	525.6	48.8	88.0	360.9	1 257.0	1 075.4	2 303.4	89.0	566.3	555.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	54.5	447.8	43.8	78.7	300.7	1 006.6	924.0	1 993.4	44.4	488.6	512.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	61.9	455.7	50.5	92.5	321.5	1 063.1	906.2	1 891.8	59.4	443.2	725.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	57.6	389.9	46.7	87.2	272.3	894.9	750.8	1 613.4	45.1	407.8	422.7	(NA)	(NA)
1972 Census--	1 441	1 553	463	61.0	405.9	49.1	93.5	291.7	920.4	843.6	1 729.2	46.7	403.4	377.9	89	94
1971 ASM----	(NA)	(NA)	(NA)	46.0	278.3	37.4	71.5	193.5	612.1	469.0	1 074.2	26.7	257.9	279.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	44.9	260.0	36.4	70.6	180.9	537.8	422.9	956.4	30.0	248.6	257.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	49.2	275.3	40.3	78.8	191.5	545.3	486.2	1 019.0	25.8	243.6	268 8	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	46.2	250.5	37.7	74.1	173.5	505.3	437.6	929.6	22.0	235.7	234.6	(NA)	(NA)
1967 Census--	1 304	1 366	383	45.2	228.3	37.2	72.0	160.0	469.5	406.5	853.3	22.5	221.2	218.1	95	91
1966 ASM----	(NA)	(NA)	(NA)	39.4	202.5	31.5	61.8	142.8	423.8	402.8	805.1	22.4	(NA)	196.7	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	41.2	193.3	32.4	63.3	136.2	387.7	393.4	816.7	17.4	(NA)	187.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	39.9	182.9	31.8	63.3	127.7	380.4	344.0	725.6	17.6	146.6	170.0	(NA)	(NA)
1963 Census--	1 361	1 419	345	40.5	175.8	32.5	62.7	123.3	361.0	346.0	704.7	15.3	134.0	175.1	93	91

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data, thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3931, MUSICAL INSTRUMENTS											
1977 Census--	10 307	(NA)	81	1 860	4.66	46	74	(NA)	19 376	53	12.78
1976 ASM----	9 174	6 287	81	1 915	4.12	44	70	17	20 367	45	13.11
1975 ASM----	8 671	6 090	80	1 876	3.98	46	75	19	15 494	55	10.28
1974 ASM----	7 915	4 685	80	1 912	3.78	47	76	17	14 902	53	9.55
1973 ASM----	7 585	5 170	79	1 956	3.65	49	76	18	14 689	51	9.40
1972 Census--	7 077	5 506	80	1 944	3.23	48	76	21	13 848	51	8.85
1971 ASM----	7 182	5 891	79	1 863	3.33	46	74	23	13 305	53	9.00
1970 ASM----	6 734	5 341	79	1 886	3.01	46	76	23	11 516	58	7.71
1969 ASM----	6 310	4 881	80	1 928	2.90	46	77	23	11 481	54	7.40
1968 ASM----	6 205	4 525	81	1 958	2.75	46	77	22	10 623	58	6.64
1967 Census--	5 771	3 987	83	1 918	2.65	46	79	22	9 550	60	5.95
1966 ASM----	5 569	(NA)	81	2 043	2.47	46	78	(NA)	9 888	56	5.92
1965 ASM----	5 279	(NA)	82	2 015	2.37	44	75	(NA)	9 724	54	5.83
1964 ASM----	5 299	3 345	81	2 101	2.30	46	79	20	8 741	60	5.09
1963 Census--	5 124	3 268	83	2 011	2.27	45	78	20	8 905	57	5.32
INDUSTRY 3942, DOLLS											
1977 Census--	7 156	(NA)	87	1 675	3.26	50	69	(NA)	19 897	35	13.63
1976 ASM----	6 210	3 378	87	1 566	3.04	46	71	13	13 831	44	10.10
1975 ASM----	6 123	2 606	88	1 683	2.91	46	72	10	12 393	49	8.29
1974 ASM----	5 700	3 028	87	1 723	2.74	48	72	12	12 626	45	8.33
1973 ASM----	5 554	2 923	89	1 780	2.50	55	81	13	9 945	55	6.26
1972 Census--	5 294	3 284	88	1 800	2.38	50	78	16	9 637	54	6.06
1971 ASM----	5 174	3 872	87	1 853	2.23	50	76	19	10 034	51	6.20
1970 ASM----	4 741	3 279	88	1 804	2.12	51	77	18	9 000	52	5.65
1969 ASM----	4 205	(S)	90	1 712	2.02	50	78	(S)	7 133	58	4.61
1968 ASM----	4 149	2 008	90	1 708	2.00	49	79	14	6 921	59	4.48
1967 Census--	3 899	2 042	89	1 719	1.86	49	77	14	6 957	56	4.50
1966 ASM----	3 551	(NA)	90	1 761	1.72	50	77	(NA)	6 439	55	4.03
1965 ASM----	3 546	(NA)	89	1 730	1.72	48	76	(NA)	6 539	54	4.20
1964 ASM----	3 529	1 716	91	1 739	1.70	46	73	13	6 962	50	4.35
1963 Census--	3 641	1 308	85	1 755	1.71	46	69	8	8 524	42	5.65
INDUSTRY 3944, GAMES, TOYS, AND CHILDREN'S VEHICLES											
1977 Census--	9 805	(NA)	73	1 863	4.03	44	63	(NA)	29 090	33	21.11
1976 ASM----	9 000	10 771	76	1 856	3.79	43	63	24	25 534	35	17.88
1975 ASM----	8 432	11 359	76	1 838	3.48	43	65	28	21 213	39	15.06
1974 ASM----	7 548	9 068	78	1 929	3.02	46	69	27	18 128	41	11.99
1973 ASM----	6 929	8 264	80	1 839	2.98	46	69	27	15 678	44	10.64
1972 Census--	6 846	7 556	79	1 902	2.92	43	68	26	15 945	42	10.67
1971 ASM----	6 505	7 507	79	1 876	2.70	44	68	28	15 258	43	10.28
1970 ASM----	5 791	6 118	81	1 840	2.44	44	68	25	14 085	41	9.47
1969 ASM----	5 439	5 635	83	1 839	2.35	45	68	25	12 888	42	8.41
1968 ASM----	5 055	5 085	67	2 267	2.24	44	68	24	12 050	42	7.88
1967 Census--	4 835	5 007	84	1 890	2.06	45	68	25	11 105	44	7.02
1966 ASM----	4 502	(NA)	84	1 947	1.83	47	71	(NA)	9 947	45	6.07
1965 ASM----	4 374	(NA)	85	1 920	1.81	49	74	(NA)	9 159	48	5.64
1964 ASM----	4 299	4 012	84	1 943	1.80	47	72	24	9 192	47	5.65
1963 Census--	4 016	4 201	85	1 925	1.73	46	72	27	8 513	47	5.21
INDUSTRY 3949, SPORTING AND ATHLETIC GOODS, N.E.C.											
1977 Census--	9 190	(NA)	80	1 865	4.17	48	70	(NA)	22 259	41	14.82
1976 ASM----	8 760	9 438	81	1 803	4.10	46	69	24	20 950	41	14.28
1975 ASM----	8 216	8 965	80	1 796	3.82	46	68	24	18 469	44	12.79
1974 ASM----	7 361	7 159	81	1 831	3.47	47	71	23	17 174	42	11.49
1973 ASM----	6 769	7 079	81	1 867	3.12	46	70	25	15 536	43	10.26
1972 Census--	6 654	6 613	80	1 904	3.11	48	72	23	19 879	44	9.84
1971 ASM----	6 050	5 606	81	1 911	2.70	43	69	24	13 306	45	8.56
1970 ASM----	5 790	5 536	81	1 939	2.56	44	71	25	11 977	48	7.61
1969 ASM----	5 595	4 951	81	1 955	2.43	47	74	23	11 083	50	6.92
1968 ASM----	5 422	5 101	81	1 965	2.34	47	74	25	10 937	49	6.81
1967 Census--	5 050	4 893	82	1 935	2.22	47	74	25	10 387	48	6.52
1966 ASM----	5 139	(NA)	79	1 961	2.31	50	75	(NA)	10 756	47	6.85
1965 ASM----	4 691	(NA)	78	1 953	2.15	48	71	(NA)	9 410	49	6.12
1964 ASM----	4 583	3 674	79	1 990	2.01	47	72	20	9 533	48	6.00
1963 Census--	4 340	3 308	80	1 929	1.96	49	74	19	8 913	48	5.75

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3931, MUSICAL INSTRUMENTS														
United States	-	**450**	**127**	**25.2**	**259.7**	**20.6**	**38.2**	**178.2**	**488.2**	**428.9**	**924.9**	**13.8**	**24.5**	**339.3**
New England Division:														
Massachusetts	E1	32	5	0.5	5.6	0.3	0.7	3.9	13.2	8.3	21.5	0.4	AA	(D)
Connecticut	-	14	5	0.6	7.1	0.5	0.9	4.6	11.8	9.1	20.5	(D)	BB	(D)
Middle Atlantic Division:														
New York	E1	40	14	1.9	17.0	1.7	3.1	12.4	33.2	20.9	54.4	1.2	1.6	16.8
New Jersey	E4	20	4	0.3	2.7	0.2	0.4	1.8	5.3	4.2	9.4	0.2	BB	(D)
Pennsylvania	-	20	6	1.0	12.2	0.8	1.6	7.9	19.9	13.5	32.9	0.9	CC	(D)
East North Central Division:														
Ohio	-	20	8	1.5	16.2	1.1	2.0	10.3	24.7	16.9	41.7	(D)	EE	(D)
Indiana	-	25	13	3.5	37.6	2.8	4.8	27.1	71.2	85.8	164.4	(D)	2.7	55.2
Illinois	-	45	17	3.9	42.8	3.1	5.4	27.4	74.2	75.5	159.6	3.6	4.8	67.5
Michigan	-	15	6	1.2	15.0	1.0	2.0	11.7	22.3	25.4	46.5	(D)	EE	(D)
Wisconsin	-	14	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
South Atlantic Division:														
Maryland	E1	7	2	0.3	3.3	0.2	0.5	2.5	5.2	1.5	6.5	(D)	BB	(D)
North Carolina	-	10	4	0.8	6.3	0.7	1.3	4.5	13.3	14.6	26.8	(D)	CC	(D)
South Carolina	-	3	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
East South Central Division:														
Tennessee	-	9	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Mississippi	-	4	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
West South Central Division:														
Arkansas	-	5	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Texas	E1	12	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Mountain Division:														
Arizona	-	7	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Utah	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Pacific Division:														
Oregon	E1	10	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
California	-	59	13	2.1	24.6	1.6	3.3	15.0	61.0	41.1	99.8	0.9	2.7	42.2
INDUSTRY 3942, DOLLS														
United States	-	**231**	**88**	**9.1**	**65.3**	**8.0**	**13.3**	**43.5**	**181.6**	**171.6**	**340.2**	**6.4**	**10.2**	**98.3**
New England Division:														
New Hampshire	-	7	3	0.3	1.8	0.2	0.4	1.5	3.2	1.2	4.4	(D)	0.5	2.5
Massachusetts	-	6	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	3.8
Middle Atlantic Division:														
New York	-	104	38	3.9	25.9	3.5	5.4	18.0	62.3	58.0	117.9	1.4	5.4	49.5
New Jersey	-	16	8	1.1	11.4	0.9	1.7	5.6	46.6	44.6	82.1	2.4	CC	(D)
East North Central Division:														
Illinois	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West North Central Division:														
Minnesota	-	8	5	0.5	3.1	0.4	0.8	2.2	7.7	3.4	10.7	0.1	BB	(D)
Missouri	-	5	3	0.2	1.4	0.2	0.3	0.9	4.9	6.3	11.0	0.1	BB	(D)
South Atlantic Division:														
South Carolina	E9	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Georgia	E1	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Kentucky	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
California	-	26	10	0.9	6.0	0.8	1.3	4.3	13.7	11.7	25.3	0.7	BB	(D)
INDUSTRY 3944, GAMES, TOYS, AND CHILDREN'S VEHICLES														
United States	-	**800**	**251**	**53.1**	**520.6**	**39.2**	**73.1**	**295.0**	**1 544.6**	**1 205.6**	**2 719.7**	**78.5**	**61.5**	**980.6**
New England Division:														
New Hampshire	-	4	2	0.2	1.6	0.2	0.3	1.4	2.5	2.1	4.5	(D)	BB	(D)
Massachusetts	-	42	15	3.8	39.9	2.7	5.0	20.7	124.2	74.2	195.8	6.4	4.2	91.9
Rhode Island	-	7	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Connecticut	E2	17	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Middle Atlantic Division:														
New York	-	112	43	12.6	123.2	9.4	17.9	71.5	299.1	251.9	542.7	15.0	10.9	190.6
New Jersey	-	46	22	3.4	31.8	2.6	5.2	18.0	76.5	92.3	165.7	2.9	FF	(D)
Pennsylvania	-	34	10	1.6	15.0	1.3	2.5	10.3	60.9	48.4	107.7	1.6	FF	(D)
East North Central Division:														
Ohio	-	33	8	3.4	30.8	2.4	5.1	19.4	148.1	93.7	235.9	9.0	4.0	66.5
Indiana	E1	14	5	0.7	5.9	0.5	0.9	3.7	16.2	11.7	27.5	(D)	CC	(D)
Illinois	-	71	28	5.1	52.2	3.8	7.1	30.3	131.4	109.0	242.0	7.8	6.6	98.4
Michigan	-	17	7	1.7	18.0	1.2	2.5	9.8	46.7	22.7	67.3	(D)	EE	(D)
Wisconsin	E1	19	10	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.4	42.5

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977												1972	
		All establishments		All employees		Production workers								
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3944, GAMES, TOYS, AND CHILDREN'S VEHICLES—Con.														
West North Central Division:														
Minnesota	-	19	6	2.3	23.7	1.9	3.0	13.7	73.2	33.3	108.7	6.5	EE	(D)
Iowa	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Missouri	-	10	4	0.3	2.1	0.2	0.5	1.4	6.2	5.2	11.2	(D)	CC	(D)
South Atlantic Division:														
Maryland	-	15	4	0.4	3.6	0.3	0.6	2.1	14.4	15.0	29.7	(D)	CC	(D)
West Virginia	-	7	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
North Carolina	-	8	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia	E2	14	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
East South Central Division:														
Kentucky	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Tennessee	-	13	5	0.5	3.1	0.4	0.7	2.1	8.5	7.2	15.5	0.1	BB	(D)
Alabama	-	4	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Arkansas	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Texas	E1	24	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mountain Division:														
Colorado	-	16	5	0.5	4.5	0.3	0.6	2.3	10.7	10.8	23.0	(D)	0.6	5.9
Pacific Division:														
Oregon	-	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
California	-	130	28	7.9	87.9	4.8	8.3	36.1	304.5	253.0	550.3	11.4	FF	(D)
INDUSTRY 3949, SPORTING AND ATHLETIC GOODS, N.E.C.														
United States	-	**1 879**	**496**	**57.2**	**525.9**	**46.1**	**85.9**	**358.6**	**1 273.6**	**1 182.0**	**2 425.2**	**62.7**	**61.0**	**920.4**
New England Division:														
Maine	-	16	5	0.6	4.0	0.5	0.9	3.0	9.3	8.7	17.7	(D)	BB	(D)
Massachusetts	-	53	10	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	3.6	64.1
Rhode Island	-	14	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Connecticut	-	25	8	0.9	8.6	0.6	1.1	4.9	19.9	14.0	33.7	(D)	0.9	12.5
Middle Atlantic Division:														
New York	E1	99	31	3.1	26.3	2.6	4.9	19.1	61.8	85.4	146.7	3.0	5.0	87.9
New Jersey	E1	59	26	1.6	14.3	1.2	2.2	8.7	36.1	39.1	74.7	3.7	1.3	21.0
Pennsylvania	-	63	20	1.8	16.9	1.5	2.8	12.1	36.9	45.4	81.6	2.2	5.3	78.0
East North Central Division:														
Ohio	-	60	15	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Indiana	-	28	12	1.0	10.3	0.8	1.6	7.5	25.6	23.3	48.1	(D)	CC	(D)
Illinois	-	90	33	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	FF	(D)
Michigan	-	77	22	2.9	33.7	2.2	4.2	21.9	66.4	69.8	136.6	(D)	FF	(D)
Wisconsin	-	71	23	2.1	16.5	1.8	3.3	11.7	43.6	35.5	79.2	2.0	EE	(D)
West North Central Division:														
Minnesota	E1	65	17	1.3	12.2	1.0	1.9	7.6	28.1	31.6	58.5	(D)	2.2	29.0
Iowa	-	30	10	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Missouri	-	50	17	1.5	10.9	1.3	2.3	7.7	28.7	28.9	57.1	(D)	1.5	17.5
Nebraska	-	11	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Kansas	E4	18	2	0.2	1.8	0.2	0.3	1.4	4.0	2.9	6.5	(D)	BB	(D)
South Atlantic Division:														
Virginia	-	14	4	0.7	6.5	0.5	1.0	4.0	15.9	14.9	30.8	(D)	EE	(D)
South Carolina	-	18	7	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Georgia	-	31	10	1.4	12.0	1.2	2.3	9.1	33.0	22.0	56.8	0.8	EE	(D)
Florida	E1	91	18	1.7	13.4	1.4	2.7	9.1	31.9	27.2	58.0	1.5	EE	(D)
East South Central Division:														
Kentucky	-	16	7	0.6	5.2	0.5	0.8	3.3	12.7	9.6	22.5	0.4	1.4	23.0
Tennessee	-	31	12	1.3	11.1	1.1	2.1	8.9	17.9	25.4	44.0	(D)	1.6	23.9
Alabama	-	28	6	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Mississippi	-	15	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
West South Central Division:														
Arkansas	-	29	8	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	EE	(D)
Louisiana	-	20	5	0.5	3.6	0.4	0.8	2.6	9.0	10.7	18.4	(D)	CC	(D)
Oklahoma	-	31	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
Texas	-	93	20	3.0	26.1	2.5	4.7	17.5	59.6	51.5	109.6	2.3	2.4	30.5
Mountain Division:														
Idaho	-	12	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Colorado	-	42	9	1.6	16.1	1.1	2.1	9.8	39.1	24.8	61.6	2.9	1.1	9.9
Arizona	-	16	3	0.7	7.9	0.6	1.2	5.7	20.2	17.3	37.5	(D)	BB	(D)
Utah	-	17	3	0.2	1.8	0.2	0.3	1.2	4.1	2.8	6.8	0.2	(NA)	(NA)
Nevada	-	9	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	-	59	14	1.8	17.9	1.5	2.8	12.2	43.7	28.9	69.9	(D)	EE	(D)
Oregon	-	31	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
California	E1	371	87	8.3	76.3	6.5	12.5	48.3	200.5	165.2	358.6	9.1	6.1	95.3

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Musical instruments (SIC 3931)	Dolls (SIC 3942)	Games, toys, and children's vehicles (SIC 3944)	Sporting and athletic goods, n.e.c. (SIC 3949)
Primary product specialization ratio[1]	percent	98	94	86	95
Coverage ratio[2]	do	99	59	93	94
All establishments	number	450	231	800	1 879
With 1 to 19 employees	do	323	143	549	1 383
With 20 to 99 employees	do	62	61	147	356
With 100 employees or more	do	65	27	104	140
All employees, average for year	1,000	25.2	9.1	53.1	57.2
Payroll for year, all employees	mil. dol.	259.7	65.3	520.6	525.9
Production workers:					
Average for year	1,000	20.6	8.0	39.2	46.1
March	do	20.8	6.0	33.5	46.5
May	do	20.4	7.5	37.9	46.8
August	do	20.8	9.4	45.0	45.6
November	do	20.2	8.8	40.4	45.2
Hours	millions	38.2	13.3	73.1	85.9
January to March	do	9.7	2.5	15.0	21.3
April to June	do	9.8	3.3	18.5	22.5
July to September	do	8.9	4.0	20.6	20.7
October to December	do	9.8	3.6	19.1	21.4
Wages	mil. dol.	178.2	43.5	295.0	358.6
Cost of materials, etc.	do	428.9	171.6	1 205.6	1 182.0
Materials, parts, containers, etc., consumed	do	387.8	142.7	1 024.2	971.4
Resales	do	24.4	12.5	124.1	162.2
Fuels consumed	do	3.2	1.1	7.5	11.3
Purchased electric energy	do	6.1	2.0	20.0	17.6
Contract work	do	7.4	13.2	29.9	19.5
Value of shipments, including resales	do	924.9	340.2	2 719.7	2 425.2
Value of resales	do	34.6	17.2	201.4	219.6
Value added by manufacture	do	488.2	181.6	1 544.6	1 273.6
Manufacturers' inventories:					
Beginning of year	do	245.4	46.6	383.2	546.2
Finished products	do	84.2	20.6	173.0	242.5
Work in process	do	85.6	9.5	67.3	127.3
Materials, supplies, fuel, etc.	do	75.6	16.4	142.9	176.4
End of year	do	243.2	62.5	437.7	579.1
Finished products	do	68.3	28.4	190.3	259.7
Work in process	do	93.7	14.8	80.6	140.6
Materials, supplies, fuel, etc.	do	81.3	19.3	166.8	178.8
Capital expenditures for plant and equipment	do	14.4	6.6	80.8	70.9
New capital expenditures	do	13.8	6.4	78.5	62.7
New buildings and other structures	do	2.7	1.4	19.5	12.3
New machinery and equipment	do	11.2	5.0	58.9	50.4
Used capital expenditures	do	0.5	0.2	2.3	8.2

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Musical instruments (SIC 3931)		Dolls (SIC 3942)		Games, toys, and children's vehicles (SIC 3944)		Sporting and athletic goods, n.e.c. (SIC 3949)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	1.9	10	(D)	44	3.8	1	(2.6)	15
Response coverage ratio[2] (percent)	57	(X)	54	(X)	73	(X)	60	(X)
Machinery	(3.0)	21	(0.8)	(A)	9.6	1	9.4	9
Response coverage ratio[2] (percent)	33	(X)	72	(X)	71	(X)	63	(X)
Cost of purchased communication services	(2.4)	29	(0.8)	39	7.4	7	(12.9)	81
Response coverage ratio[2] (percent)	40	(X)	90	(X)	69	(X)	63	(X)
Rental payments	8.2	10	5.2	9	30.0	4	21.1	8
Buildings and other structures	(6.1)	16	3.8	12	19.4	6	12.6	10
Machinery and equipment	2.1	6	1.4	12	10.6	5	8.5	9
Supplemental labor costs	40.4	2	9.7	11	106.3	2	89.0	2
Legal costs	20.6	2	5.4	5	49.4	2	46.0	2
Voluntary costs	19.8	2	(4.3)	18	57.0	2	43.0	4
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	68.4	5	17.4	11	199.0	4	179.4	5
New capital expenditures	2.3	6	(0.9)	36	21.5	11	15.9	14
Used capital expenditures	-	(X)	(0.1)	90	0.7	3	(4.2)	42
Retirements	(0.7)	20	(0.1)	44	5.5	13	(7.4)	30
End of year	70.1	5	18.3	12	215.7	4	192.0	5
Machinery and equipment:								
Beginning of year	94.3	3	(23.8)	16	368.1	4	(362.4)	18
New capital expenditures	(14.7)	25	(3.8)	19	57.9	3	70.0	14
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(1.6)	(A)	(3.0)	(A)
Computers and peripheral data processing equipment[3]	(D)	(A)	(D)	(A)	(1.1)	(A)	(1.6)	(A)
All other[3]	(13.2)	(A)	(2.7)	(A)	47.0	2	57.3	3
New machinery and equipment, n.s.k.[4]	(0.5)	(A)	(0.7)	(A)	(8.2)	(A)	(8.2)	(A)
Used capital expenditures	(0.6)	17	(0.1)	82	1.4	5	(7.9)	18
Retirements	4.8	6	(1.1)	25	31.1	6	(37.7)	29
End of year	104.7	5	(26.6)	15	396.3	3	402.7	5
Total gross value of depreciable assets:								
Beginning of year	162.8	3	41.2	10	567.1	3	(541.7)	18
New capital expenditures	(16.9)	22	(4.7)	21	79.4	4	85.9	13
Used capital expenditures	(0.6)	16	(0.2)	66	2.1	3	(12.2)	19
Retirements	55	7	(1.3)	22	36.6	6	(45.2)	29
End of year	174.8	3	44.8	9	612.0	3	(594.7)	5
Depreciation charges during 1977	12.4	4	3.8	13	55.7	4	51.4	6
Buildings and other structures	2.9	4	(1.0)	16	8.4	5	9.1	9
Machinery and equipment	9.6	5	(2.8)	15	47.3	4	42.2	6

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ form the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent of more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3931, MUSICAL INSTRUMENTS												
Total	-	**450**	**25.2**	**259.7**	**20.6**	**38.2**	**178.2**	**488.2**	**428.9**	**924.9**	**13.8**	**243.2**
Establishments with an average of—												
1 to 4 employees	E6	215	0.3	3.1	0.3	0.5	2.2	(S)	9.7	16.9	0.2	4.5
5 to 9 employees	E8	51	0.3	3.1	0.3	0.5	2.2	6.1	5.3	11.2	0.7	3.3
10 to 19 employees	E7	57	0.8	7.6	0.6	1.2	5.1	13.7	13.6	27.2	0.4	6.9
20 to 49 employees	E1	41	1.3	13.8	1.1	2.0	10.1	28.2	21.1	49.1	0.7	11.1
50 to 99 employees	-	21	1.4	12.6	1.2	2.2	9.3	23.3	16.4	38.6	0.4	10.1
100 to 249 employees	-	35	5.5	62.8	4.4	8.4	38.8	104.4	78.7	181.0	4.0	43.9
250 to 499 employees	-	18	6.7	65.3	5.6	10.3	47.0	133.9	127.0	262.4	3.1	76.0
500 to 999 employees	-	10	(8.8)	(91.5)	(7.1)	(13.1)	(63.6)	(182.0)	(157.1)	(338.4)	(4.3)	(87.3)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	260	1.1	10.6	1.0	1.7	7.5	19.6	19.9	39.5	0.6	10.3
INDUSTRY 3942, DOLLS												
Total	-	**231**	**9.1**	**65.3**	**8.0**	**13.3**	**43.5**	**161.6**	**171.6**	**340.2**	**6.4**	**62.5**
Establishments with an average of—												
1 to 4 employees	E8	86	0.1	0.9	0.1	0.2	0.6	2.3	2.3	4.7	0.2	0.8
5 to 9 employees	E5	27	0.2	1.2	0.2	0.3	0.8	2.7	3.7	6.4	0.2	0.9
10 to 19 employees	E3	30	0.4	3.0	0.4	0.6	1.9	5.9	5.4	11.4	0.4	1.9
20 to 49 employees	-	35	1.1	7.4	0.9	1.6	5.4	23.3	25.0	48.1	0.7	6.5
50 to 99 employees	-	26	1.8	11.3	1.5	2.5	7.9	29.9	30.5	59.1	(5.0)	9.6
100 to 249 employees	-	20	2.9	20.3	2.6	4.0	13.5	48.4	41.3	86.3	(D)	14.5
250 to 499 employees	-	6	(2.6)	(21.2)	(2.2)	(4.1)	(13.3)	(69.0)	(63.4)	(124.2)	(D)	(28.3)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	86	0.2	1.6	0.2	0.3	1.0	3.5	3.4	7.0	0.3	1.3
INDUSTRY 3944, GAMES, TOYS, AND CHILDREN'S VEHICLES												
Total	-	**800**	**53.1**	**520.6**	**39.2**	**73.1**	**295.0**	**1 544.6**	**1 205.6**	**2 719.7**	**78.5**	**437.7**
Establishments with an average of—												
1 to 4 employees	E8	372	0.4	4.2	0.4	0.7	2.5	11.2	8.9	20.3	0.5	3.0
5 to 9 employees	E7	84	0.5	4.8	0.4	0.8	2.9	13.2	8.9	22.2	0.6	3.4
10 to 19 employees	E4	93	1.2	11.4	0.9	1.7	6.4	32.3	25.6	57.9	1.3	8.8
20 to 49 employees	E1	89	2.9	24.9	2.3	4.3	14.9	64.5	48.4	112.9	2.6	17.2
50 to 99 employees	E1	58	4.2	38.0	3.3	6.3	22.8	103.6	93.1	196.0	3.8	32.5
100 to 249 employees	-	56	9.2	80.5	7.0	13.2	49.4	282.8	229.5	502.8	12.3	85.6
250 to 499 employees	-	24	8.1	77.2	6.2	11.5	47.2	232.4	179.6	410.6	14.5	62.5
500 to 999 employees	-	15	11.1	110.8	8.2	15.7	64.6	255.7	223.9	475.1	12.0	84.2
1,000 to 2,499 employees	-	8	(15.3)	(168.9)	(10.5)	(19.0)	(84.2)	(548.8)	(387.8)	(921.9)	(30.9)	(140.4)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	427	1.6	14.6	1.3	2.4	8.9	37.8	28.1	65.9	1.8	10.3
INDUSTRY 3949, SPORTING AND ATHLETIC GOODS, N.E.C.												
Total	-	**1 879**	**57.2**	**525.9**	**46.1**	**85.9**	**358.6**	**1 273.6**	**1 182.0**	**2 425.2**	**62.7**	**579.1**
Establishments with an average of—												
1 to 4 employees	E7	923	1.3	12.4	1.3	2.0	8.5	25.5	25.8	55.2	1.9	12.8
5 to 9 employees	E3	215	1.5	13.3	1.2	2.1	9.1	29.3	28.8	57.7	1.4	12.6
10 to 19 employees	E1	245	3.3	28.5	2.6	4.4	18.6	67.4	59.0	124.8	3.2	27.3
20 to 49 employees	E1	240	7.6	64.2	6.0	10.8	41.8	145.5	145.4	288.3	8.2	62.0
50 to 99 employees	-	116	8.3	68.9	6.7	12.5	45.6	169.9	159.5	328.2	11.0	76.1
100 to 249 employees	-	88	13.5	116.4	11.2	21.0	80.8	303.9	294.0	585.9	16.5	138.0
250 to 499 employees	-	41	13.5	128.1	10.9	20.8	91.6	317.5	296.1	606.8	11.0	162.0
500 to 999 employees	-	10	(8.3)	(94.1)	(6.2)	(12.3)	(62.6)	(214.5)	(173.4)	(378.2)	(9.5)	(88.4)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	831	1.7	15.2	1.6	2.5	10.5	33.6	30.5	64.1	2.0	15.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3931	**Musical instruments:**										
	Entire industry	450	25.2	259.7	20.6	38.2	178.2	488.2	428.9	924.9	13.8
	Establishments with 75 percent specialization or more	440	24.2	247.9	19.8	36.6	170.6	465.0	409.9	875.3	(D)
39311	Pianos:										
	Establishments with this product class primary	16	4.7	41.8	4.1	7.6	32.9	72.0	100.1	175.3	1.8
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39312	Organs:										
	Establishments with this product class primary	28	7.1	79.0	5.7	10.0	48.6	163.2	142.2	306.1	4.4
	Establishments with 75 percent specialization or more in class	25	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39313	Piano and organ parts:										
	Establishments with this product class primary	19	3.3	30.0	2.8	5.1	21.7	52.5	37.7	89.1	1.7
	Establishments with 75 percent specialization or more in class	14	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39314	Other musical instruments and parts:										
	Establishments with this product class primary	73	8.3	92.0	6.5	12.8	63.2	178.5	118.9	292.4	5.0
	Establishments with 75 percent specialization or more in class	68	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3942	**Dolls:**										
	Entire industry	231	9.1	65.3	8.0	13.3	43.5	181.6	171.6	340.2	6.4
	Establishments with 75 percent specialization or more	222	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3944	**Games, toys, and children's vehicles:**										
	Entire industry	800	53.1	520.6	39.2	73.1	295.0	1 544.6	1 205.6	2 719.7	78.5
	Establishments with 75 percent specialization or more	759	38.6	374.4	29.0	54.4	220.5	1 078.4	811.0	1 873.4	57.4
39441	Games, except toys and hobbies:										
	Establishments with this product class primary	57	8.8	88.3	6.4	11.1	45.3	335.1	259.5	579.7	17.1
	Establishments with 75 percent specialization or more in class	46	5.3	51.6	3.7	7.2	27.1	195.9	154.5	340.7	(D)
39443	Baby carriages and childrens' vehicles, except bicycles:										
	Establishments with this product class primary	17	5.1	50.0	4.0	7.8	32.8	120.5	126.2	246.1	9.6
	Establishments with 75 percent specialization or more in class	7	2.6	25.0	1.9	3.6	15.5	59.5	60.3	119.3	3.4
39444	Toys, except games and hobbies:										
	Establishments with this product class primary	110	26.4	263.6	19.3	35.6	143.9	719.6	575.9	1 286.2	34.1
	Establishments with 75 percent specialization or more in class	83	14.0	133.5	11.0	20.0	82.7	325.4	285.9	606.7	24.1
39445	Hobbies and models (craft and structural kits and sets):										
	Establishments with this product class primary	59	7.7	73.8	5.5	11.2	44.6	269.7	172.2	435.5	13.5
	Establishments with 75 percent specialization or more in class	52	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3949	**Sporting and athletic goods, n.e.c.:**										
	Entire industry	1 879	57.2	525.9	46.1	85.9	358.6	1 273.6	1 182.0	2 425.2	62.7
	Establishments with 75 percent specialization or more	1 796	51.6	473.6	41.7	77.3	323.1	1 159.2	1 072.0	2 205.4	55.6
39491	Fishing tackle and equipment:										
	Establishments with this product class primary	163	9.0	69.2	7.5	13.6	50.5	159.2	120.4	273.4	9.2
	Establishments with 75 percent specialization or more in class	150	7.8	58.4	6.6	11.6	43.2	133.9	101.9	232.5	7.9
39492	Golf equipment (balls, clubs, bags, etc.):										
	Establishments with this product class primary	96	10.8	114.5	8.7	16.6	83.6	270.0	197.9	469.2	9.6
	Establishments with 75 percent specialization or more in class	85	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39494	Playground, gymnasium, and exercise equipment:										
	Establishments with this product class primary	87	6.0	58.0	4.5	8.6	36.9	134.8	165.2	295.2	9.7
	Establishments with 75 percent specialization or more in class	68	3.6	38.2	2.6	5.0	21.5	89.7	107.8	194.7	6.4
39495	Other sporting and athletic goods, n.e.c.:										
	Establishments with this product class primary	349	24.8	226.1	19.7	37.5	147.9	583.3	585.7	1 144.8	25.7
	Establishments with 75 percent specialization or more in class	320	21.0	190.2	16.7	31.8	125.1	499.3	509.9	992.1	22.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3931	Musical instruments.....1977..	924.9	866.2	19.4	39.3	98	878.9	866.2	12.7	99
	1972..	617.5	520.6	16.8	80.1	97	525.5	520.6	4.9	99
	1967..	434.3	391.8	13.3	29.2	97	401.2	391.8	9.4	98
3942	Dolls.....1977..	340.2	300.0	18.4	21.7	94	508.2	300.0	208.2	59
	1972..	199.1	189.7	2.8	6.6	99	277.9	189.7	88.2	68
	1967..	162.8	152.6	.3	9.9	99	217.0	152.6	64.4	70
3944	Games, toys, and children's vehicles.....1977..	2,719.7	2,161.3	347.2	211.2	86	2,333.2	2,161.3	171.9	93
	1972..	1,739.3	1,384.7	221.7	132.9	86	1,500.7	1,384.7	116.0	92
	1967..	1,192.2	968.7	141.7	81.8	87	1,048.7	968.7	80.0	92
3949	Sporting and athletic goods, n.e.c.....1977..	2,425.2	2,079.1	119.9	226.2	95	2,216.9	2,079.1	137.8	94
	1972..	1,736.6	1,453.6	181.1	101.9	89	1,538.8	1,453.6	85.2	94
	1967..	853.3	758.7	42.9	51.7	95	836.4	758.7	77.7	91

n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Musical instruments (SIC 3931)	Dolls (SIC 3942)	Games, toys, and children's vehicles (SIC 3944)	Sporting and athletic goods, n.e.c. (SIC 3949)	Other industries
	Total	(X)	924.9	340.2	2,719.7	2,425.2	(X)
	Primary products	(X)	866.2	300.0	2,161.3	2,079.1	(X)
	Secondary products	(X)	19.4	18.4	347.2	119.9	(X)
	Miscellaneous receipts	(X)	39.3	21.7	211.2	226.2	(X)
3931-	Musical instruments	878.9	866.2	-	-	(D)	(D)
39311	Pianos	180.6	180.6	-	-	-	-
39312	Organs	295.8	(D)	-	-	-	(D)
39313	Piano and organ parts	86.2	82.8	-	-	-	3.4
39314	Other musical instruments and parts	255.5	248.6	-	-	(D)	(D)
39310	Musical instruments, n.s.k	60.8	(D)	-	-	-	(D)
39420	Dolls and stuffed toy animals	508.2	-	300.0	207.4	-	.8
3944-	Games, toys, and children's vehicles	2,333.2	(D)	(D)	2,161.3	16.8	137.4
39441	Games, except toys and hobbies	612.0	-	(D)	530.3	(D)	(D)
39443	Baby carriages, and children's vehicles, except bicycles	211.2	-	-	185.7	(D)	(D)
39444	Toys, except games and hobbies	1,036.0	-	(D)	977.4	(D)	31.9
39445	Hobbies, and models (craft and structural kits and sets)	309.3	(D)	-	307.8	-	(D)
39440	Games, toys, and children's vehicles, n.s.k	164.6	-	-	160.1	1.2	3.3
3949-	Sporting and athletic goods, n.e.c	2,216.9	(D)	-	(D)	2,079.1	115.8
39491	Fishing tackle and equipment	270.1	-	-	-	247.6	22.5
39492	Golf equipment (balls, clubs, bags, etc.)	385.1	-	-	-	378.7	6.3
39494	Playground, gymnasium, and exercise equipment	257.8	-	-	13.4	233.3	11.1
39495	Other sporting and athletic goods, n.e.c	1,060.8	(D)	-	(D)	981.7	70.6
39490	Sporting and athletic goods, n.e.c., n.s.k	243.4	-	-	.1	237.8	5.5
	Other shipments by 4-digit product group:						
2329-	Men's and boys' clothing, n.e.c	(X)	-	-	-	4.6	(X)
2393-	Textile bags	(X)	-	-	(D)	(D)	(X)
2399-	Fabricated textile products, n.e.c	(X)	-	(D)	-	(D)	(X)
2511-	Wood household furniture	(X)	(D)	-	(D)	(D)	(X)
2514-	Metal household furniture	(X)	-	-	9.1	(D)	(X)
2519-	Household furniture, n.e.c	(X)	-	-	(D)	-	(X)
2531-	Public building and related furniture	(X)	-	-	-	(D)	(X)
2731-	Book publishing	(X)	-	-	(D)	-	(X)
3011-	Tires and inner tubes	(X)	-	-	-	(D)	(X)
3069-	Fabricated rubber products, n.e.c	(X)	-	-	(D)	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	(D)	13.0	(X)
3149-	Footwear, except rubber, n.e.c	(X)	-	-	-	(D)	(X)
3315-	Steel wire and related products	(X)	(D)	-	-	-	(X)
3429-	Hardware, n.e.c	(X)	(D)	-	(D)	(D)	(X)
3496-	Miscellaneous fabricated wire products	(X)	-	-	-	(D)	(X)
3631-	Household cooking equipment	(X)	-	-	-	(D)	(X)
3639-	Household appliances, n.e.c	(X)	-	-	-	(D)	(X)
3651-	Radio and TV receiving sets	(X)	(D)	-	-	-	(X)
3699-	Electrical equipment and supplies, n.e.c	(X)	-	-	-	(D)	(X)
3799-	Transportation equipment, n.e.c	(X)	-	-	(D)	-	(X)
3842-	Surgical appliances and supplies	(X)	-	-	(D)	(D)	(X)
3952-	Lead pencils and art goods	(X)	-	-	(D)	-	(X)
3963-	Buttons	(X)	-	-	(D)	-	(X)
3999-	Manufacturing industries, n.e.c	(X)	-	-	(D)	1.8	(X)
	Miscellaneous receipts:						
93000 00	Contract work	(X)	1.1	(D)	4.2	3.4	(X)
99980 98	Other miscellaneous receipts	(X)	3.5	(D)	5.7	3.2	(X)
99989 00	Resales	(X)	34.6	17.2	201.4	219.6	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary products-Con.	
3944-	2514 Metal household furniture	(D)	3949-	2298 Cordage and twine	(D)
	2731 Book publishing	(D)		2542 Metal partitions and fixtures	5.6
	2771 Greeting card publishing	(D)		3079 Miscellaneous plastics products	18.2
	3079 Miscellaneous plastics products	14.8		3111 Leather tanning and finishing	(D)
				3149 Footwear, except rubber, n.e.c	(D)
	3574 Calculating and accounting machines	(D)		3161 Luggage	(D)
	3651 Radio and TV receiving sets	(D)		3496 Miscellaneous fabricated wire products	(D)
	3679 Electronic components, n.e.c	(D)		3999 Manufacturing industries, n.e.c	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MUSICAL INSTRUMENTS						
3931- --	Total		(NA)	(X)	878.9	(X)	525.5
39311 --	Pianos		(NA)	(X)	180.6	(X)	107.4
39311 11	Verticals, uprights, or consoles, 37 inches or less in height	Thousands	8	(S)	55.2	90.3	37.3
39311 15	Verticals, uprights, or consoles, over 37 inches in height		12	*156.6	104.7	109.1	56.2
39311 51	Grand pianos	Thousands	6	**7.4	20.7	6.5	13.9
39312 --	Organs		(NA)	(X)	295.8	(X)	188.3
39312 11	Pipe and reed	Thousands	14	(S)	18.8	(S)	11.7
39312 51	Electronic	Thousands	13	252.7	276.8	(S)	176.6
39312 00	Organs, n.s.k		(NA)	(X)	.3	(X)	-
39313 --	Piano, organ, and other instrument parts		(NA)	(X)	86.2	(X)	54.6
39313 11	Piano parts and materials (actions, attachments, strings, tuning pins, etc.), except benches		17	(X)	73.6	(X)	41.1
39313 51	Organ parts and materials, except benches		12	(X)	12.6	(X)	13.5
39314 --	Other musical instruments		(NA)	(X)	255.5	(X)	156.0
	Wind instruments, except organs and accordions:						
39314 13	Woodwinds	Thousands	10	**368.6	55.7	(S)	26.2
39314 15	Brass winds		10	**265.4	44.5	(S)	24.6
39314 23	Fretted instruments, nonelectronic only (such as guitars, banjos, mandolins, and ukeleles)		9	*144.8	34.0	(NA)	(3)
39314 26	String instruments (such as violins, violas, bass, cellos, harps, harpsichords, and clavichords)		6	(S)	5.0	(NA)	(3)
39314 31	Accessories and parts, sold separately, such as reed mouthpieces, music stands, and drummers' traps, etc., except instrument cases and benches		29	(S)	49.1	(X)	26.5
39314 51	Electronic musical instruments, other than electronic organs.		14	(S)	33.6	(X)	34.2
39314 88	Percussion muscial instruments (cymbals, drums, vibraphones (nonelectric), etc.)		8	(S)	32.8	(NA)	(3)
39314 98	Other nonelectronic musical instruments, including accordians, etc	Thousands	1			(NA)	344.2
39314 00	Other musical instruments and parts, n.s.k		(NA)	(X)	.8	(X)	.3
39310 00	Musical instruments and parts, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	21.3	(X)	8.1
39310 02	Musical instruments and parts, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	39.5	(X)	11.1
	DOLLS						
3942- --	Total		(NA)	(X)	508.2	(X)	277.9
39420 --	Dolls and stuffed toy animals:						
39420 08	Stuffed dolls	Millions	14	(X)	35.6	(X)	25.0
	Dolls, complete, over 13 inches, except stuffed dolls:						
39420 09	Mechanical/electrical		5	8.3	81.4		
39420 11	Other		12	5.0	29.9		
	Dolls, complete, 13 inches and under, except stuffed dolls:						
39420 12	Fashion dolls		11	8.9	39.6	51.6	112.4
39420 13	Action figures		6				
39420 15	Other, including collectors' miniatures	Millions	10	*14.8	46.3		
39420 16	Doll parts		7	(X)	10.1	(X)	7.2
39420 17	Fashion doll clothes, accessories, and playsets		7	(X)	22.4		
39420 19	Action figure clothes, accessories, and playsets		4	(X)	39.7	(X)	28.8
39420 20	Other doll clothes and accessories		6	(X)			
39420 53	Stuffed toy animals	Millions	49	(S)	136.0	49.5	70.1
39420 54	Other stuffed toys		10	(X)	39.6	(X)	11.0
39420 56	Other animals and figures, not stuffed, including puppets		5	(X)	4.4		
39420 00	Dolls and stuffed toy animals, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	16.2	(X)	15.1
39420 02	Dolls and stuffed toy animals, n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	7.0	(X)	8.3

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	TOYS, AND CHILDREN'S VEHICLES						
3944- --	Total	.....	(NA)	(X)	2,333.2	(X)	1,500.7
39441 --	Games, excluding toys and hobbies	.....	(NA)	(X)	612.0	(X)	280.6
	Games and puzzles:						
39441 81	Children's board games (under 12 years)	Thousands	11	**18,388.5	44.7	(X)	135.1
39441 83	Family and other board games (chess, checkers, etc.) (12 years and over)		18	36,702.8	106.7		
39441 85	Sports-oriented action and skill games (football, baseball, etc.)		16	(S)	64.1	(X)	52.2
39441 87	Nonsports-oriented action and skill games		13	**20,889.4	97.4	(X)	87.5
39441 89	Puzzles		17	**41,880.8	39.6		
39441 93	Other games[4]	Thousands	32	(S)	232.3		
39441 97	Parts for games	.....	6	(X)	15.5	(X)	5.8
39441 00	Games, excluding toys and hobbies, n.s.k.	.....	(NA)	(X)	11.7	(X)	-
39443 --	Baby carriages and children's vehicles, except bicycles	.....	(NA)	(X)	211.2	(X)	126.1
39443 11	Baby carriages, including combination carriage-strollers	Thousands	3	(S)	37.4	197.8	5.5
39443 15	Strollers		9			1,644.4	18.1
39443 21	Baby walkers		4	249.2	2.6	762.7	4.9
39443 33	Children's automobiles and tractors, pedal driven		4	(S)	14.5	1,567.9	12.0
	Tricycles, including pedal and chain driven:						
39443 44	Plastic		3	6,992.2	77.4	5,063.8	42.6
39443 45	Metal tubular construction	Thousands	4				
39443 81	Parts for children's vehicles, sold separately	.....	2	(X)	74.5	(X)	.4
39443 98	Other children's vehicles, including scooters, sidewalk cycles, wagons, sleds, etc	Thousands	18	5,192.0		3,828.3	41.1
39443 00	Baby carriages and children's vehicles, except bicycles, n.s.k.	.....	(NA)	(X)	4.8	(X)	-
39444 --	Toys, excluding games and hobbies	.....	(NA)	(X)	1,036.0	(X)	(NA)
39444 11	Doll carriages, strollers, and doll carts	Thousands	6	(S)	12.3	1,885.5	7.5
39444 13	Doll houses and furniture, excluding collectors' doll houses, miniatures, and accessories	.....	9	(X)	29.7	(X)	(NA)
39444 15	Toy trains and equipment, mechanical and electric	.....	5	(X)	27.3	(X)	31.0
39444 17	Mechanically powered toys, except road racing sets, excluding scale model operating railroads, cars, boats, planes, etc	.....	10	(X)	55.9	(X)	(NA)
39444 19	Road racing sets, including accessories and parts	.....	7	(X)	59.2	(X)	63.6
	Non-powered transportation toys, nonriding, excluding model kits, units sold without accessories:						
39444 21	Plastic, over 6 inches in length	Thousands	12	4,812.5			
39444 23	Other, over 6 inches in length		2	(D)			
39444 25	Plastic, 6 inches in length and under		4	(D)	126.6	(X)	90.0
39444 27	Other, 6 inches in length and under		3	(D)			
39444 28	Sets (sold with accessories)		4	(D)			
39444 29	Musical toys and toy musical instruments		13	(S)	32.0		
39444 31	Infants toys, n.e.c		11	**22,223.8	52.6	(X)	258.3
39444 33	Pre-school toys, n.e.c., excluding infant toys		26	*72,417.5	233.6		
39444 35	Pre-school playsets	Thousands	10	(S)	54.5		
39444 37	Toy guns, gun sets, and rifles	.....	17	(X)	34.9	(X)	55.0
39444 39	Children's books: Coloring books and picture-word books	.....	5	(X)	12.4	(X)	26.3
39444 41	Juvenile-scale sporting goods and inflatables, including sand, water, gardening toys, rubber balls, etc	.....	10	(X)	18.0	(X)	(NA)
39444 43	Housekeeping and cooking toys, including tea sets and play tools	.....	12	(X)	39.1	(X)	(NA)
39444 95	Parts for toys	.....	14	(X)	71.6	(X)	19.4
39444 98	Other toys not listed above	.....	50	(X)	167.5	(X)	(NA)
39444 00	Toys, excluding games and hobbies, n.s.k.	.....	(NA)	(X)	8.7	(X)	-
39445 --	Hobbies, models (operating or static): Craft and structural kits, sets, and individual units; scientific equipment in kit or set form	.....	(NA)	(X)	309.3	(X)	(NA)
	Operating models:						
39445 11	Electrically operated railroads; individual units, kits, sets, and accessories	.....	7	(X)	18.1	(X)	31.0
39445 13	Operating cars, boats, planes, and other models in individual units, kits, and sets	.....	9	(X)	32.7	(X)	(NA)
	Static models, other than plastic:						
39445 15	Railroad, car, boat, plane, and other models in individual units, kits, and sets and components, other than plastic	.....	7	(X)	12.2	(X)	84.1
39445 17	Structural kits, and sets and components, other than plastic	.....	2	(X)			
39445 19	Plastic static models	.....	12	(X)	78.4		
39445 21	Components and accessories for models	.....	9	(X)	7.2		
39445 23	Crafts: Kits and supplies individually packaged or in bulk, include decoupage, macrame, tiffany glass, beadery, paint by number sets, etc., excluding glass beads	Thousands	30	(S)	153.3	(X)	(NA)

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	GAMES, TOYS, AND CHILDREN'S VEHICLES--Con.						
39445 --	Hobbies, models (operating or static): Craft and structural kits, sets, and individua' units; scientific equipment in kit or set form--Con.						
39445 25	Science: Microscopes, chemistry sets, or any natural science kits or sets, including botany, minerology and electrical kits or sets, etc.	Thousands	2	(D)	3.0	(X)	8.6
	Collectors' miniatures:						
39445 27	Doll houses and accessories		1	(X)		(X)	(NA)
39445 29	Other, including soldiers or historic figures, scale cars, aircraft, etc.	Thousands	4	(S)	3.2	(X)	(NA)
39445 00	Hobbies, models (operating or static); Craft and structural kits, sets and individual units; scientific equipment in kit or set form, n.s.k.		(NA)	(X)	1.3	(X)	-
39440 00	Games, toys, and children's vehicles, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	98.7	(X)	133.6
39440 02	Games, toys, and children's vehicles, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	65.9	(X)	26.4
	SPORTING AND ATHLETIC GOODS, N.E.C.						
3949- --	Total		(NA)	(X)	2,216.9	(X)	1,538.8
39491 --	Fishing tackle and equipment		(NA)	(X)	270.1	(X)	167.7
	Fishing tackle:						
	Fishing rods:						
39491 11	Glass	Thousands	18	8,052	48.2	10,793	36.3
39491 12	Graphite metal		9				
39491 13	Other		6	111	3.8		
39491 15	Fishing reels	Thousands	12	**11,055	63.4	9,684	43.4
39491 17	Fish hooks, including snelled hooks		5	(X)	15.3	(X)	43.5
39491 18	Casting plugs, spinners, and spoons; flies, lures,and similar artificial baits		39	(X)	49.2		
39491 20	Tackle boxes		7	(X)	25.5	(X)	40.7
39491 21	Other fishing equipment, including creels, fish and bait buckets, floats, furnished lines, sinkers, snap swivels, etc.		48	(X)	46.0		
39491 00	Fishing tackle and equipment, n.s.k		(NA)	(X)	18.6	(X)	3.8
39492 --	Golf equipment		(NA)	(X)	385.1	(X)	276.7
39492 31	Golf balls	1,000 dozen	15	16,797	106.3	13,468	81.5
	Golf clubs:						
39492 41	Irons	Thousands	28	*10,125	118.3	12,402	88.0
39492 45	Woods		24	*4,032	63.1	3,994	38.5
39492 47	Golf bags	Thousands	15	*1,432	33.1	1,645	21.9
39492 98	Other golf equipment, such as carts for carrying golf bags, shafts sold as such, tees, and training devices for putting and driving, excluding shoes and apparel		30	(X)	57.0	(X)	42.2
39492 00	Golf equipment, n.s.k		(NA)	(X)	7.2	(X)	4.6
39494 --	Playground, gymnasium, and gymnastic equipment		(NA)	(X)	257.8	(X)	107.4
39494 62	Home playground equipment, including swing sets, slides, seesaws, sandboxes, etc.		11	(X)	57.2	(X)	25.6
39494 63	Institutional and commercial playground equipment, heavy duty, including swings, slides, etc.		15	(X)	35.3	(X)	25.4
39494 65	Gymnasium and gymnastic apparatus and equipment, including parallel and horizontal bars, balance beams, trampolines, wrestling and other gymnasium mats, etc.		32	(X)	56.7	(X)	28.6
39494 67	Health, physical fitness, and exercising equipment, including barbells and dumbbells, jogging machines, slantboards, etc.		24	(X)	98.6	(X)	27.8
39494 00	Playground, gymnasium, and gymnastic equipment, n.s.k		(NA)	(X)	9.9	(X)	-
39495 --	Other sporting and athletic goods		(NA)	(X)	1,060.8	(X)	811.6
39495 11	Billiard and pool tables	Thousands	22	**150	52.9	393	65.4
39495 15	Billiard and pool supplies, such as balls and cues, etc., sold separately		13	(X)	6.8	(X)	8.8
39495 25	Bowling alleys	Thousands	3	(S)	1.5		
	Bowling alley playing supplies:						
39495 28	Bowling balls	Thousands	4	2,599	34.6	(X)	197.8
39495 29	Other bowling alley playing supplies, including pins, bowling pin setters, etc.		13	(X)	66.1		
39495 31	Baseballs	1,000 dozens	7	845	11.7	564	8.2
39495 33	Softballs and indoor type baseballs		6	872	12.3	425	7.1
39495 37	Baseball mitts and gloves		7	**52	12.2	39	4.2
	Baseball bats, including softball bats:						
39495 38	Wood		3	357	10.5	780	20.0
39495 39	Metal		6	196	13.0		
39495 40	Other	1,000 dozens	1				

See footnotes at end of table.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3949- --	SPORTING AND ATHLETIC GOODS, N.E.C.--Con.						
39495 --	Other sporting and athletic goods--Con.						
39495 41	Footballs	1,000 dozens	11	400	21.7	421	17.7
39495 43	Basketballs		12	413	30.7	339	19.0
39495 49	Inflatable athletic balls other than footballs and basketballs, including soccerballs, volleyballs, etc.	1,000 dozens	9	(S)	19.0	1,609	18.0
39495 51	Sidewalk and rink roller skates	1,000 pairs	12	(S)	40.2	3,461	20.6
39495 53	Wooden skateboards, including complete sets	Thousands	9	(S)	8.2	(X)	(5)
39495 54	Plastics skateboards, including complete sets	Thousands	16	(S)	41.3		
39495 55	Ice skates	1,000 pairs	8	1,484	21.4	728	5.7
39495 71	Snow skis	1,000 pairs	10	468	42.5	339	22.8
39495 73	Winter sports equipment, such as snow ski poles, bobsleds, toboggans, and hockey goods, but excluding athletic clothing, body protective equipment, skates, shoes, children's sleds, and skis		16	(X)	35.8	(X)	17.3
39495 74	Surfboards	Thousands	2	(D)	20.2	(X)	(5)
39495 75	Water skis	1,000 pairs	7	559		508.8	11.0
39495 77	Underwater sports equipment, skin diving equipment such as aqualungs and attachments, face masks, fins, etc., excluding clothing, watches, and cameras		15	(X)	36.8	(X)	28.2
	Lawn tennis equipment:						
39495 82	Rackets, all types	Thousands	11	3,409	52.6	(X)	(5)
39495 83	Tennis balls	1,000 dozens	4	9,076	63.1		
39495 84	Other tennis equipment and accessories, including frames and nets, but excluding tennis clothing and shoes		16	(X)	19.4		
39495 85	Archery equipment		23	(X)	63.7	(X)	21.9
39495 90	Football protective equipment (helmets, shoulder pads, hip pads, kidney pads, thigh pads, etc.)		13	(X)	29.8	(X)	42.1
39495 91	Body protective equipment of all types for baseball, soccer, lacrosse, hockey, fencing, and other sports, including helmets, masks, chest pads, shoulder pads, kidney pads, skin guards, mouth guards, etc		21	(X)	15.8		
39595 93	Football, baseball, and soccer equipment, n.e.c., including track, field, and miscellaneous athletic field equipment, goal posts and nets, training devices for batting and pitching, javelins, shot puts, etc		23	(X)	26.0	(X)	9.5
39495 95	Wading pools and other above ground swimming pools under 15 feet in diameter, not filtered, including plastics and metal-walled types	Thousands	7	(S)	13.4	(X)	6.7
39495 97	Above ground swimming pools, 15 feet in diameter and over, filtered (completely manufactured)	Thousands	6	(S)	46.3	(X)	28.7
39495 98	Other sporting and athletic goods, including table tennis goods, water skiing equipment (except skis), diving boards, other water sports equipment, n.e.c., skeet and shooting range equipment including decoys, clay pigeons, trap target launchers, etc. (excluding firearms, ammunition), badminton rackets, shuttlecocks and related equipment, squash equipment, and other supplies (excluding athletic clothing and shoes)		76	(X)	141.2	(X)	206.6
39495 00	Other sporting and athletic goods, n.s.k.		(NA)	(X)	50.1	(X)	24.3
39490 00	Sporting and athletic goods, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	179.3	(X)	109.8
39490 02	Sporting and athletic goods, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	64.1	(X)	65.6

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals of exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972 product codes 39314 23, 39314 26, and 39314 88 were included with 39314 98.

[4]Includes electronic and video games.

[5]For 1972 product codes 39495 53, 39495 54, 39495 74, 39495 82, 39495 83, and 39495 84 were included with 39495 98.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
39311, PIANOS		
United States	180.6	107.4
Middle Atlantic Division:		
New York	25.4	EE
South Atlantic Division:		
North Carolina	22.5	EE
39312, ORGANS		
United States	295.8	188.3
East North Central Division:		
Ohio	5.0	BB
Indiana	54.9	FF
Illinois	110.5	AA
39313, PIANO AND ORGAN PARTS		
United States	86.2	54.6
Middle Atlantic Division:		
New York	3.5	2.2
Pennsylvania	2.8	AA
East North Central Division:		
Illinois	4.4	6.0
39314, OTHER MUSICAL INSTRUMENTS AND PARTS		
United States	255.5	156.0
New England Division:		
Massachusetts	15.1	BB
Middle Atlantic Division:		
New York	15.0	6.5
New Jersey	3.5	BB
East North Central Division:		
Ohio	19.4	18.3
Indiana	52.4	28.6
Illinois	32.6	26.3
Michigan	19.2	EE
Pacific Division:		
California	37.8	21.2
39441, GAMES, EXCEPT TOYS AND HOBBIES		
United States	612.0	280.6
New England Division:		
Rhode Island	3.8	CC
Middle Atlantic Division:		
New York	144.1	76.8
New Jersey	13.9	BB
Pennsylvania	22.6	(NA)
East North Central Division:		
Ohio	24.0	CC
Illinois	17.8	10.4
South Atlantic Division:		
North Carolina	14.4	AA
Pacific Division:		
California	102.0	EE
39443, BABY CARRIAGES, AND CHILDREN'S VEHICLES, EXCEPT BICYCLES		
United States	211.2	126.1
Middle Atlantic Division:		
New York	18.9	6.8
East North Central Division:		
Illinois	47.8	FF
39444, TOYS, EXCEPT GAMES AND HOBBIES		
United States	1,036.0	(NA)
New England Division:		
Massachusetts	32.1	(NA)
Connecticut	4.0	(NA)
Middle Atlantic Division:		
New York	282.2	(NA)
New Jersey	102.0	(NA)
Pennsylvania	21.1	(NA)
East North Central Division:		
Illinois	114.6	(NA)
Wisconsin	35.3	(NA)
West South Central Division:		
Texas	13.0	(NA)
Pacific Division:		
California	126.0	(NA)
39445, HOBBIES, AND MODELS (CRAFT AND STRUCTURAL KITS AND SETS)		
United States	309.3	(NA)
New England Division:		
Massachusetts	8.4	(NA)
Middle Atlantic Division:		
New York	20.3	(NA)
New Jersey	13.6	(NA)
East North Central Division:		
Illinois	33.8	(NA)
West North Central Division:		
Iowa	5.3	(NA)
South Atlantic Division:		
Maryland	15.5	(NA)
Pacific Division:		
California	66.5	(NA)
39491, FISHING TACKLE AND EQUIPMENT		
United States	270.1	167.7
New England Division:		
Connecticut	2.0	2.0
Middle Atlantic Division:		
New York	6.9	CC
East North Central Division:		
Ohio	8.6	2.8
Indiana	2.3	1.9
Michigan	9.1	7.1
Wisconsin	20.1	9.0
West North Central Division:		
Minnesota	18.9	11.1
Iowa	8.8	CC
South Atlantic Division:		
Florida	14.0	9.9
East South Central Division:		
Kentucky	2.4	BB
West South Central Division:		
Arkansas	12.6	7.6
Louisiana	2.9	(NA)
Texas	5.4	BB
Pacific Division:		
Washington	7.6	BB
California	23.2	11.7

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
39492, GOLF EQUIPMENT (BALLS, CLUBS, BAGS, ETC.)		
United States	385.1	276.7
Middle Atlantic Division:		
Pennsylvania	3.8	4.5
East North Central Division:		
Ohio	17.9	16.5
Illinois	39.9	36.5
Wisconsin	11.2	8.0
South Atlantic Division:		
Florida	2.2	(NA)
Pacific Division:		
California	42.9	14.6
39494, PLAYGROUND, GYMNASIUM, AND EXERCISE EQUIPMENT		
United States	257.8	107.4
Middle Atlantic Division:		
New York	15.1	(NA)
New Jersey	8.3	BB
Pennsylvania	19.6	7.7
East North Central Division:		
Indiana	5.4	3.1
Illinois	20.5	13.8
West North Central Division:		
Iowa	25.4	EE
Missouri	12.4	BB
West South Central Division:		
Texas	4.6	4.8
Pacific Division:		
Washington	10.8	AA
California	19.6	11.5
39495, OTHER SPORTING AND ATHLETIC GOODS, N.E.C.		
United States	1,060.8	811.6
New England Division:		
Maine	15.4	BB
Vermont	2.0	BB
39495, OTHER SPORTING AND ATHLETIC GOODS, N.E.C.--Con.		
New England Division--Con.		
Massachusetts	53.0	35.2
Connecticut	17.3	12.9
Middle Atlantic Division:		
New York	86.2	116.3
New Jersey	46.1	21.9
Pennsylvania	35.1	95.9
East North Central Division:		
Ohio	67.0	38.2
Indiana	20.1	CC
Illinois	66.3	36.1
Michigan	65.5	GG
Wisconsin	30.8	22.5
West North Central Division:		
Minnesota	21.6	32.1
Iowa	4.9	5.8
Missouri	32.9	29.2
Nebraska	2.4	(NA)
South Atlantic Division:		
Maryland	2.4	(NA)
Georgia	27.9	BB
Florida	23.9	22.2
East South Central Division:		
Tennessee	21.4	10.4
Alabama	14.7	BB
Mississippi	3.2	(NA)
West South Central Division:		
Texas	63.5	29.2
Mountain Division:		
Colorado	23.7	6.0
Utah	3.1	(NA)
Pacific Division:		
Washington	25.6	EE
Oregon	3.8	BB
California	188.7	101.8

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Class—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3931-	Musical instruments	878.9	841.4	707.8	747.1	597.6	525.5	401.2	319.4
39311	Pianos	180.6	173.3	150.7	151.8	125.4	107.4	91.2	87.7
39312	Organs	295.8	299.4	240.1	252.5	206.8	188.3	126.2	107.3
39313	Piano and organ parts	86.2	78.9	69.1	93.6	79.3	54.6	46.0	42.3
39314	Other musical instruments and parts	255.5	261.4	231.4	236.2	170.3	156.0	123.4	77.7
39310	Musical instruments, n.s.k.	60.8	(28.4)	(16.5)	(13.0)	(15.8)	19.2	14.4	4.4
39420	Dolls and stuffed toy animals	508.2	366.9	321.1	331.7	359.3	277.9	217.0	190.4
3944-	Games, toys, and children's vehicles	2,333.2	1,847.4	1,670.3	1,657.4	1,596.8	1,500.7	1,048.7	846.6
39441	Games, except toys and hobbies	612.0	408.5	366.6	313.1	343.5	280.6	(NA)	(NA)
39943	Baby carriages, and children's vehicles, except bicycles	211.2	159.1	160.8	112.8	143.1	126.1	99.6	82.7
39444	Toys, except games and hobbies	1,036.0	1,247.7	1,092.9	1,083.9	1,038.2	934.0	(NA)	(NA)
39445	Hobbies, and models (craft and structural kits and sets)	309.3						(NA)	(NA)
39440	Games, toys, and children's vehicles, n.s.k.	164.6	(32.1)	(50.0)	(147.6)	72.0	160.0	(NA)	(NA)
3949-	Sporting and athletic goods, n.e.c.	2,216.9	2,132.5	1,797.9	1,725.5	1,488.6	1,538.8	836.4	655.5
39491	Fishing tackle and equipment	270.1	238.2	215.0	219.8	182.1	167.7	111.1	96.9
39492	Golf equipment (balls, clubs, bags, etc.)	385.1	338.9	319.9	326.7	339.8	276.7	158.6	
39494	Playground, gymnasium, and exercise equipment	257.8	(265.6)	218.8	180.2	129.1	107.4	470.3	525.4
39495	Other sporting and athletic goods, n.e.c.	1,060.8	1,169.0	972.8	906.8	654.4	811.6		
39490	Sporting and athletic goods, n.e.c., n.s.k.	243.4	(120.8)	(71.4)	92.0	183.2	175.4	96.4	33.2

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[1]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3931, MUSICAL INSTRUMENTS					
	Materials, components, parts, containers, and supplies	.....	(X)	387.8	(X)	228.4
242101	Rough and dressed lumber	1,000 bd. ft...	(S)	26.6	(X)	[2]27.0
365150	Loudspeakers, microphones, and tuners, all types	.....	(X)	5.8	(X)	[2]12.0
367000	Electronic components and accessories, including solid state semiconductors	.....	(X)	110.1	(X)	[2]45.0
393101	Parts specially designed for musical instruments, including actions, strings, mouthpieces, etc	.....	(X)	98.4	(X)	[2]48.0
260001	Paper and paperboard products	.....	(X)	4.9	(X)	96.4
970099	All other materials and components, parts, containers, and supplies consumed	.....	(X)	101.0	(X)	
971000	Materials, components, parts, containers, and supplies, n.s.k.[3]	.....	(X)	41.0	(X)	
	INDUSTRY 3942, DOLLS					
	Materials, components, parts, containers, and supplies	.....	(X)	142.7	(X)	90.7
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	11.0	(X)	3.2
220129	Broadwoven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Mil. lin. yd...	(S)	33.6	(X)	22.2
265001	Paperboard boxes and containers	.....	(X)	7.5	(X)	5.3
362115	Fractional horsepower electric motors (under 1 hp.), excluding timing motors	Thousands.....	(X)	([4])	(X)	(Z)
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	.8	(X)	([5])
263105	Paperboard, except that used for shipping, such as news, chip, pasted, tablet, check, binders' board	.....	(X)	.2	(X)	([5])
242111	Hardwood lumber, rough and dressed	1,000 bd. ft...	-	-	(X)	([5])
242123	Softwood lumber, rough and dressed	1,000 bd. ft...	(D)	([4])	(X)	([5])
394200	Dolls parts	.....	(X)	16.2	(X)	([5])
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[4]27.4	(X)	[5]33.6
971000	Materials, components, parts, containers, and supplies, n.s.k.[3]	.....	(X)	46.0	(X)	26.4
	INDUSTRY 3944, GAMES, TOYS, AND CHILDREN'S VEHICLES					
	Materials, components, parts, containers, and supplies	.....	(X)	1,024.2	(X)	652.8
	Mill shapes and forms:					
331001	Carbon steel	1,000 s. tons..	**74.9	31.0	121.2	26.9
331020	Alloy steel		*15.4	6.0	21.8	4.9
	Stainless steel:					
331033	Sheet and strip		(S)	.3	.3	1.7
331050	All other	1,000 s. tons..	(S)	6.2	(S)	.3
335001	Aluminum and aluminum-base alloy	Million lb.....	(S)	4.5	(S)	5.2
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	139.3	(X)	[2]66.8
220129	Broadwoven fabrics (cotton, wool, manmade fiber fabrics, etc.)	Mil. lin. yd...	(S)	14.8	10.6	5.7
265001	Paperboard boxes and containers	.....	(X)	101.6	(X)	59.8
362115	Fractional horsepower electric motors (under 1 hp.), excluding timing motors	Thousands.....	(S)	5.7	(S)	7.2
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	65.4	(X)	[2]86.0
263105	Paperboard, except that used for shipping, such as news, chip, pasted, tablet, check, binders' board	.....	(X)	22.6	(X)	([6])
242111	Hardwood lumber, rough and dressed	1,000 bd. ft...	(S)	12.6	(X)	[2]25.0
242123	Softwood lumber, rough and dressed	1,000 bd. ft...	(S)	12.8	(X)	
394200	Doll parts	.....	(X)	20.7	(X)	
970099	All other materials and components, parts, containers, and supplies	.....	(X)	425.1	(X)	[6]284.0
971000	Materials, components, parts, containers, and supplies, n.s.k.[3]	.....	(X)	155.6	(X)	79.3

See footnotes at end of table.

Office Supplies, Costume Jewelry and Notions

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DESCRIPTION OF INDUSTRIES

OFFICE SUPPLIES, COSTUME JEWELRY, AND NOTIONS

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code	Title
3951	Pens and Mechanical Pencils
3952	Lead Pencils and Art Goods
3953	Marking Devices
3955	Carbon Paper and Inked Ribbons
3961	Costume Jewelry
3962	Artificial Flowers
3963	Buttons
3964	Needles, Pins, and Fasteners

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3951, PENS AND MECHANICAL PENCILS

This industry comprises establishments primarily engaged in the manufacture of pens, pen points, fountain pens, ballpoint pens, refill cartridges, porous tipped felt-tip markers, and parts.

The total value of shipments for establishments classified in the Pens and Mechanical Pencils industry amounted to $670 million in 1977, an increase of 116 percent from 1972. The value of shipments of products classified as primary to the industry was $563 million, an increase of 81 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $420 million in 1977, was 96 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 13.2 thousand employees, an increase of 21 percent from 1972. The leading States in employment were California, New Jersey, Connecticut, and Iowa, accounting for approximately 50 percent of the industry's 1977 employment. Data for Connecticut and Iowa have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3952, LEAD PENCILS AND ART GOODS

This industry comprises establishments primarily engaged in the manufacture of lead pencils, pencil leads, and crayons; and materials and equipment for artwork, such as airbrushes, drawing tables and boards, palettes, sketch boxes, pantographs, artists' colors and waxes, pyrography goods, drawing inks, and drafting materials. Establishments primarily engaged in the manufacture of mechanical pencils are classified in industry 3951, and drafting instruments in industry 3811.

The total value of shipments for establishments classified in the Lead Pencils and Art Goods industry amounted to $276 million in 1977, an increase of 39 percent from 1972. The value of shipments of products classified as primary to the industry was $268 million, an increase of 54 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $146 million in 1977, was 34 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 6.6 thousand employees, a decrease of 7 percent from 1972. The leading States in employment were Tennessee, Pennsylvania, and New York, accounting for approximately 60 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the

census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3953, MARKING DEVICES

This industry comprises establishments primarily engaged in the manufacture of rubber and metal hand stamps, dies, and seals; steel letters and figures; and stencils for use in painting or marking. Establishments primarily engaged in the manufacture of felt-tip markers are classified in industry 3951.

The total value of shipments for establishments classified in the Marking Devices industry amounted to $249 million in 1977, an increase of 38 percent from 1972. The value of shipments of products classified as primary to the industry was $216 million, an increase of 32 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $160 million in 1977, was 32 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 7.4 thousand employees, a decrease of 9 percent from 1972. The leading States in employment were Illinois, California, and New York, accounting for approximately 45 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 13 percent of total value of shipments.

INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS

This industry comprises establishments primarily engaged in the manufacture of carbon paper for business machines, salesbooks, etc.; spirit or gelatin process and other stencil paper; and inked or carbon ribbons for business machines.

The total value of shipments for establishments classified in the Carbon Paper and Inked Ribbons industry amounted to $344 million in 1977, an increase of 47 percent from 1972. The value of shipments of products classified as primary to the industry was $489 million, an increase of 54 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $142 million in 1977, was 29 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 4.6 thousand employees, a decrease of 18 percent from 1972. The leading States in employment were New York, California, and New Jersey, accounting for approximately 45 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of total value of shipments.

INDUSTRY 3961, COSTUME JEWELRY

This industry comprises establishments primarily engaged in the manufacture of costume jewelry, costume novelties, and ornaments made of all materials except precious metal, precious or semiprecious stones, and rolled gold plate and gold-filled materials. Establishments primarily engaged in the manufacture of jewelry from precious metals, such as platinum and karat gold are classified in industry 3911.

The total value of shipments for establishments classified in the Costume Jewelry industry amounted to $817 million in 1977, an increase of 73 percent from 1972. The value of shipments of products classified as primary to the industry was $782 million, an increase of 77 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments. The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $485 million in 1977, was 76 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 25.0 thousand employees, an increase of 17 percent from 1972. The leading States in employment were Rhode Island and New York, accounting for approximately 65 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of total value of shipments.

INDUSTRY 3962, ARTIFICIAL FLOWERS

This industry comprises establishments primarily engaged in the manufacture of artificial trees (including Christmas trees), flowers, fruits, and foliage made from all materials except glass; and in producing fancy feathers, plumes, and articles made principally of feathers and plumes. Establishments primarily engaged in the manufacture of artificial flowers, fruits, and foliage from glass are classified in industry 3231.

The total value of shipments for establishments classified in the Artificial Flowers industry amounted to $156 million in 1977, an increase of 44 percent from 1972. The value of shipments of products classified as primary to the industry was $160 million, an increase of 57 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $82 million in 1977, was 43 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 4.4 thousand employees, a decrease of 8 percent from 1972. The leading States in employment were New York, California, New Jersey, and Texas, accounting for approximately 50 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 9 percent of total value of shipments.

INDUSTRY 3963, BUTTONS

This industry comprises establishments primarily engaged in the manufacture of buttons, button parts, and button blanks and molds of all materials, except precious metal and precious or semiprecious stones.

The total value of shipments for establishments classified in the Buttons industry amounted to $95 million in 1977, an increase of 2 percent from 1972. The value of shipments of products classified as primary to the industry was $106 million, an increase of 3 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $50 million in 1977, was 3 percent below value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 3.2 thousand employees, a decrease of 20 percent from 1972. The leading State in employment was New York, accounting for approximately 50 percent of the industry's 1977 employment. This same State was in the forefront for 1972 when it accounted for approximately 60 percent of the industry's employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

INDUSTRY 3964, NEEDLES, PINS, AND FASTENERS

This industry comprises establishments primarily engaged in the manufacture of notions, such as machine and hand needles, pins, hooks and eyes, eyelets, buckles, and slide and snap fasteners.

The total value of shipments for establishments classified in the Needles, Pins, and Fasteners industry amounted to $674 million in 1977, an increase of 17 percent from 1972. The value of shipments of products classified as primary to the industry was $634 million, an increase of 14 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $375 million in 1977, was 12 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 17.7 thousand employees, a decrease of 12 percent from 1972. The leading States in employment were New York, Connecticut, Georgia, and Pennsylvania, accounting for approximately 60 percent of the industry's 1977 employment. Data for Georgia and Pennsylvania have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 8 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3951, PENS AND MECHANICAL PENCILS																
1977 Census--	133	141	78	13.2	135.6	10.4	20.6	92.9	419.8	257.4	669.8	32.8	(NA)	123.1	85	94
1976 ASM----	(NA)	(NA)	(NA)	11.9	108.8	9.2	17.4	75.1	310.1	180.1	482.5	19.6	152.7	94.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	10.7	98.6	8.3	15.4	61.8	240.7	156.8	400.6	19.2	133.1	86.3	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	10.9	95.2	8.5	16.1	60.9	231.4	148.1	370.1	19.5	109.6	86.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	11.2	89.1	8.7	17.0	57.5	243.6	116.8	353.4	12.9	94.1	68.3	(NA)	(NA)
1972 Census--	112	117	64	10.9	81.9	8.5	16.4	52.6	213.7	104.9	310.5	7.6	84.5	56.8	92	91
1971 ASM----	(NA)	(NA)	(NA)	11.7	79.3	8.8	17.0	49.4	173.7	81.8	259.4	8.2	93.6	46.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	11.4	72.1	8.8	16.8	44.7	164.0	76.3	236.9	5.3	90.2	49.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	12.4	73.9	9.4	18.6	46.0	161.9	89.4	250.8	10.9	90.4	47.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	11.9	66.6	9.3	18.2	41.8	147.7	75.5	220.1	11.7	76.2	43.5	(NA)	(NA)
1967 Census--	113	119	61	11.8	62.8	9.2	18.1	38.6	140.5	74.2	211.8	6.8	70.2	37.7	93	92
1966 ASM----	(NA)	(NA)	(NA)	12.3	63.4	10.1	19.8	39.4	145.8	72.5	216.4	5.2	(NA)	35.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	12.2	58.7	9.4	18.3	35.9	131.6	70.3	200.7	6.4	(NA)	34.2	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	11.3	54.6	8.6	17.7	33.4	115.9	68.2	184.6	4.4	71.4	31.5	(NA)	(NA)
1963 Census--	122	139	67	11.6	55.0	9.1	17.9	33.9	119.1	66.6	185.5	4.1	69.3	29.5	90	93
INDUSTRY 3952, LEAD PENCILS AND ART GOODS																
1977 Census--	127	134	46	6.6	63.1	4.7	9.2	37.6	145.5	134.0	275.9	10.8	(NA)	70.9	85	79
1976 ASM----	(NA)	(NA)	(NA)	7.6	63.1	5.2	10.2	36.5	143.8	132.3	268.4	9.5	(S)	72.5	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	7.5	60.2	5.2	9.7	34.0	118.5	116.0	235.6	5.4	(S)	64.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	8.5	59.9	6.3	12.2	34.7	120.2	110.9	222.0	5.8	(S)	66.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	7.0	53.7	5.2	10.1	31.7	114.0	103.1	212.5	5.9	(S)	52.6	(NA)	(NA)
1972 Census--	136	144	49	7.1	50.0	5.1	10.4	28.6	108.2	90.8	198.8	3.9	(S)	43.9	83	88
1971 ASM----	(NA)	(NA)	(NA)	6.9	45.6	4.8	9.0	25.7	96.8	84.6	180.3	4.3	93.6	42.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	7.6	44.6	5.4	10.2	27.0	89.1	85.7	174.3	4.1	90.2	43.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	8.0	49.1	6.2	12.3	29.7	93.6	86.4	177.5	2.3	49.8	40.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	7.8	45.2	5.9	11.7	26.2	83.0	82.2	165.6	5.3	48.1	36.3	(NA)	(NA)
1967 Census--	123	131	59	7.9	42.2	6.0	12.0	24.7	79.8	80.5	158.9	4.6	43.7	36.4	85	93
1966 ASM----	(NA)	(NA)	(NA)	8.3	40.3	6.4	12.6	24.7	81.2	79.4	159.6	3.2	(NA)	33.0	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	7.8	37.3	6.0	11.8	23.0	75.5	69.8	145.8	2.4	(NA)	28.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	7.4	35.7	5.6	10.5	20.2	76.9	62.5	135.5	1.9	44.3	30.4	(NA)	(NA)
1963 Census--	140	144	57	6.9	31.9	5.0	9.8	18.4	64.7	56.8	121.6	1.6	42.7	26.4	87	90
INDUSTRY 3953, MARKING DEVICES																
1977 Census--	583	612	86	7.4	78.7	4.7	9.1	39.6	160.0	90.3	248.7	5.5	(NA)	34.3	85	85
1976 ASM----	(NA)	(NA)	(NA)	8.3	78.3	5.6	10.6	39.8	151.8	97.2	247.6	12.5	72.2	42.0	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	8.4	75.9	5.6	10.8	39.2	141.7	95.4	237.5	4.4	59.8	41.5	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	8.2	72.9	5.4	10.6	38.9	151.4	86.0	234.2	4.5	55.1	41.9	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	9.1	69.1	6.3	12.1	40.6	146.2	69.6	214.5	5.5	58.5	25.4	(NA)	(NA)
1972 Census--	584	621	99	8.1	63.2	5.5	10.7	36.0	121.5	60.1	180.0	2.6	50.3	21.1	90	91
INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS																
1977 Census--	78	100	51	4.6	53.7	3.4	6.9	33.1	142.4	205.4	344.0	6.2	(NA)	47.8	96	64
1976 ASM----	(NA)	(NA)	(NA)	3.9	45.8	2.7	5.6	26.4	120.4	174.3	294.5	5.3	45.0	41.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	4.3	46.0	2.9	5.7	23.7	123.3	161.0	285.4	4.6	53.7	40.6	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	5.5	54.3	3.8	7.5	31.2	133.9	178.1	309.0	4.5	54.2	49.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	5.8	53.0	4.1	8.1	30.9	112.8	154.9	268.1	6.7	40.0	41.4	(NA)	(NA)
1972 Census--	70	84	51	5.2	49.1	3.8	7.8	27.9	113.4	123.4	237.5	5.7	39.5	36.7	90	61
1971 ASM----	(NA)	(NA)	(NA)	6.5	47.8	4.5	8.7	27.3	118.6	123.0	241.3	4.6	52.6	35.6	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	6.3	44.3	4.4	8.7	25.1	107.5	119.3	228.1	4.0	49.3	36.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	6.4	45.8	4.6	9.7	26.8	102.5	123.6	223.8	3.5	49.7	37.9	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	6.0	41.8	4.3	8.9	24.9	89.8	117.8	208.3	5.0	47.5	32.7	(NA)	(NA)
1967 Census--	87	107	63	6.5	41.8	4.4	9.0	23.8	93.8	113.2	206.8	5.3	44.5	30.9	94	79
1966 ASM----	(NA)	(NA)	(NA)	5.8	36.5	3.8	7.7	20.5	90.0	109.9	196.5	4.0	(NA)	32.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.8	35.0	4.0	8.0	20.2	83.7	95.4	177.6	2.4	(NA)	26.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.6	33.6	3.9	8.1	18.7	77.9	89.6	166.5	3.7	35.1	26.2	(NA)	(NA)
1963 Census--	91	102	52	5.5	31.5	3.8	7.7	17.6	68.4	87.0	155.5	2.3	31.9	23.3	85	83

See footnotes at end of table.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3961, COSTUME JEWELRY																
1977 Census--	837	847	236	25.0	215.9	20.8	36.1	136.1	485.1	338.9	816.6	17.6	(NA)	119.6	92	89
1976 ASM----	(NA)	(NA)	(NA)	22.9	186.7	19.2	34.1	119.9	405.1	296.0	695.1	20.0	96.5	104.9	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	21.9	167.9	18.8	34.0	105.6	448.7	289.8	737.4	9.6	74.9	97.9	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	20.1	143.1	16.9	30.3	91.2	332.1	235.8	561.0	10.0	68.9	88.8	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	22.3	142.9	18.6	33.4	90.3	278.9	215.2	487.3	7.4	76.6	78.9	(NA)	(NA)
1972 Census--	764	766	208	21.4	132.1	17.6	32.1	82.2	275.7	198.2	471.6	6.7	77.6	67.8	93	90
1971 ASM----	(NA)	(NA)	(NA)	21.0	128.4	17.0	31.7	79.6	288.5	182.2	473.3	9.1	84.5	62.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	23.4	134.5	19.2	36.9	86.7	268.9	183.4	451.5	9.0	81.1	62.7	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	24.7	124.6	21.1	40.7	84.4	257.9	186.7	445.4	9.2	78.5	61.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	22.5	114.1	19.3	37.7	77.5	236.0	174.2	402.9	3.7	73.9	57.7	(NA)	(NA)
1967 Census--	763	764	206	22.4	106.9	19.4	36.7	73.8	220.5	160.5	376.5	4.4	69.8	48.5	95	92
1966 ASM----	(NA)	(NA)	(NA)	21.6	94.4	18.5	35.8	65.8	186.7	153.4	335.0	5.8	(NA)	37.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	21.3	89.8	17.6	33.8	60.5	173.8	140.8	313.0	3.9	(NA)	32.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	21.7	88.1	18.2	35.3	60.9	158.1	137.6	294.3	1.7	45.9	34.7	(NA)	(NA)
1963 Census--	910	912	204	21.7	85.3	18.2	34.5	59.8	151.0	132.4	280.5	3.8	44.4	34.2	95	95
INDUSTRY 3962, ARTIFICIAL FLOWERS																
1977 Census--	221	232	66	4.4	33.2	3.7	6.4	21.8	82.1	77.1	156.3	2.7	(NA)	26.5	98	91
1976 ASM----	(NA)	(NA)	(NA)	3.8	30.0	3.3	5.3	23.3	66.2	67.7	133.0	1.2	28.7	21.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	3.6	27.6	3.1	6.1	20.5	55.4	61.2	118.5	0.8	27.5	21.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	4.1	26.6	3.6	5.9	19.4	62.4	65.1	122.8	2.2	29.0	28.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	5.5	30.0	4.7	8.0	20.6	63.5	69.5	132.4	1.8	24.7	24.8	(NA)	(NA)
1972 Census--	261	263	53	4.8	26.7	4.2	7.3	18.0	57.5	52.0	108.7	3.3	23.5	21.3	93	92
1971 ASM----	(NA)	(NA)	(NA)	3.4	18.8	3.0	5.4	12.7	44.2	39.5	83.4	1.9	(S)	13.8	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	3.8	19.9	3.3	6.2	13.0	44.1	37.9	82.8	1.8	(S)	12.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	4.9	21.6	4.4	7.1	15.6	46.1	46.3	93.0	2.1	(S)	15.3	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	4.9	20.5	4.4	7.3	14.9	43.5	46.2	88.7	1.0	(S)	13.6	(NA)	(NA)
1967 Census--	319	321	79	5.2	20.2	4.6	7.9	14.8	43.3	41.4	84.7	0.7	14.5	11.2	97	85
1966 ASM----	(NA)	(NA)	(NA)	3.8	15.1	3.3	5.7	10.7	36.7	38.4	73.5	0.8	(NA)	10.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	4.2	15.5	3.6	6.2	11.1	35.7	40.4	74.0	(NA)	(NA)	11.8	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	4.8	17.0	4.1	7.6	12.6	33.0	32.6	65.6	0.7	9.7	9.9	(NA)	(NA)
1963 Census--	367	384	70	5.0	16.3	4.3	7.6	12.1	29.2	30.6	60.4	0.7	8.7	9.6	97	87
INDUSTRY 3963, BUTTONS																
1977 Census--	150	159	47	3.2	30.8	2.6	4.7	20.0	50.0	43.1	95.2	1.4	(NA)	13.9	98	82
1976 ASM----	(NA)	(NA)	(NA)	3.3	29.4	2.7	5.1	19.5	53.1	44.6	96.5	1.1	25.0	12.3	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	3.1	27.8	2.6	4.6	18.1	53.0	44.2	97.9	1.9	26.8	11.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	3.0	24.6	2.6	4.7	16.2	50.2	44.9	93.0	1.1	24.8	12.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	4.0	28.4	3.3	6.1	18.4	52.2	42.5	94.3	6.0	24.5	12.6	(NA)	(NA)
1972 Census--	180	186	51	4.0	26.7	3.2	6.0	17.6	51.8	42.8	93.7	2.3	24.0	12.7	94	81
1971 ASM----	(NA)	(NA)	(NA)	4.5	29.0	3.5	6.5	18.2	56.8	49.6	106.1	2.5	27.5	14.1	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	4.9	27.8	3.9	7.6	18.0	51.1	43.5	95.1	1.6	26.0	13.6	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	4.6	28.5	3.8	7.3	18.8	53.7	44.9	96.8	2.1	24.3	13.5	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	5.1	28.4	4.2	8.3	19.1	53.6	44.5	95.6	1.3	24.3	13.4	(NA)	(NA)
1967 Census--	227	234	62	4.8	23.7	4.1	8.0	16.8	46.1	35.5	80.8	1.2	24.8	12.2	97	90
1966 ASM----	(NA)	(NA)	(NA)	5.3	24.1	4.5	8.2	16.3	43.2	29.4	72.9	1.2	(NA)	11.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	5.3	22.2	4.6	8.3	16.2	41.4	29.4	70.6	1.4	(NA)	12.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	5.2	22.1	4.3	8.6	15.6	50.8	35.4	86.0	1.0	24.9	11.7	(NA)	(NA)
1963 Census--	282	290	69	5.6	23.0	4.7	9.1	16.5	43.8	37.9	81.8	1.0	25.2	11.8	96	87
INDUSTRY 3964, NEEDLES, PINS, AND FASTENERS																
1977 Census--	249	275	117	17.7	165.6	14.0	27.5	111.8	375.4	302.8	674.2	22.0	(NA)	111.6	92	95
1976 ASM----	(NA)	(NA)	(NA)	16.7	140.1	12.7	24.7	93.4	356.1	261.6	606.1	20.9	228.3	97.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	15.3	123.8	11.8	22.4	79.4	277.6	225.3	514.5	9.0	219.6	86.4	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	17.0	130.6	13.2	25.4	86.4	296.3	223.1	512.2	16.1	216.0	104.7	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	19.2	137.0	15.0	28.8	91.1	320.4	222.5	535.1	15.9	194.1	103.2	(NA)	(NA)
1972 Census--	244	267	125	20.2	137.7	16.1	32.0	94.6	334.5	240.1	574.7	21.2	(S)	94.0	94	92
1971 ASM----	(NA)	(NA)	(NA)	21.3	141.6	17.0	33.5	94.3	330.1	236.4	564.9	28.7	232.5	100.5	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	21.2	131.9	16.9	33.7	88.5	309.3	213.3	515.6	20.4	(S)	96.9	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	20.6	117.5	16.9	34.1	82.5	249.5	196.1	439.0	15.1	137.0	77.0	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	19.4	107.2	16.0	32.7	75.9	233.3	179.8	414.3	12.3	122.5	59.9	(NA)	(NA)
1967 Census--	262	289	138	19.2	101.1	15.9	31.8	70.5	218.1	168.5	385.3	15.3	115.3	61.4	93	89
1966 ASM----	(NA)	(NA)	(NA)	22.4	108.5	18.5	36.1	76.6	233.5	182.3	409.3	12.6	(NA)	68.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	22.0	103.8	18.1	35.6	73.7	231.6	172.8	398.0	8.4	(NA)	65.0	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	19.7	96.1	16.1	34.5	68.7	209.3	153.5	356.7	10.2	86.3	58.4	(NA)	(NA)
1963 Census--	314	343	149	20.3	89.4	16.7	32.6	64.1	190.9	146.1	337.3	7.4	78.6	51.8	91	92

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1] In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2] For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3] Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4] Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5] Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6] Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7] Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8] Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3951, PENS AND MECHANICAL PENCILS											
1977 Census--	10 287	(NA)	79	1 970	4.51	38	58	(NA)	31 848	32	20.41
1976 ASM----	9 142	12 831	77	1 891	4.31	37	59	31	26 058	35	17.82
1975 ASM----	9 214	12 439	77	1 855	4.01	39	63	33	22 495	40	15.62
1974 ASM----	8 733	10 055	77	1 894	3.78	40	65	29	21 229	41	14.37
1973 ASM----	7 955	8 401	77	1 954	3.38	33	58	26	21 750	36	14.32
1972 Census--	7 513	7 752	77	1 929	3.20	33	60	27	19 605	38	13.03
1971 ASM----	6 777	8 000	75	1 931	2.90	31	62	36	14 846	45	10.21
1970 ASM----	6 324	7 912	77	1 909	2.66	32	62	38	14 385	43	9.76
1969 ASM----	5 959	7 290	75	1 978	2.47	35	65	36	13 056	45	8.70
1968 ASM----	5 596	6 403	78	1 956	2.29	34	64	34	12 411	45	8.11
1967 Census--	5 322	5 949	77	1 967	2.13	35	64	33	11 906	44	7.76
1966 ASM----	5 154	(NA)	82	1 960	1.98	33	62	(NA)	11 853	43	7.36
1965 ASM----	4 811	(NA)	77	1 946	1.96	35	64	(NA)	10 786	44	7.19
1964 ASM----	4 831	6 318	76	2 058	1.88	36	66	38	10 256	47	6.54
1963 Census--	4 741	5 974	78	1 967	1.89	35	65	37	10 267	46	6.65
INDUSTRY 3952, LEAD PENCILS AND ART GOODS											
1977 Census--	9 535	(NA)	71	1 959	4.06	48	71	(NA)	21 982	43	15.74
1976 ASM----	8 302	(S)	68	1 961	3.57	49	72	(S)	18 921	43	14.09
1975 ASM----	8 026	(S)	69	1 865	3.50	49	74	(S)	15 800	50	12.21
1974 ASM----	7 047	(S)	74	1 936	2.84	49	76	(S)	14 141	49	9.85
1973 ASM----	7 671	(S)	74	1 942	3.13	48	73	(S)	16 285	47	11.28
1972 Census--	7 042	(S)	71	2 039	2.75	45	70	(S)	15 239	46	10.40
1971 ASM----	6 608	13 565	69	1 875	2.85	46	72	51	14 028	47	10.75
1970 ASM----	5 868	11 868	71	1 888	2.64	49	74	51	11 723	50	8.73
1969 ASM----	6 137	6 225	77	1 983	2.41	48	76	28	11 700	52	7.60
1968 ASM----	5 794	6 166	75	1 983	2.23	49	76	29	10 641	54	7.09
1967 Census--	5 341	5 531	75	2 000	2.05	50	77	27	10 101	52	6.65
1966 ASM----	4 855	(NA)	77	1 968	1.96	49	75	(NA)	9 783	49	6.44
1965 ASM----	4 782	(NA)	76	1 966	1.94	47	73	(NA)	9 679	49	6.39
1964 ASM----	4 824	5 986	75	1 875	1.92	46	72	32	10 391	46	7.32
1963 Census--	4 623	6 188	72	1 960	1.87	46	72	35	9 376	49	6.60
INDUSTRY 3953, MARKING DEVICES											
1977 Census--	10 680	(NA)	64	1 919	4.36	36	67	(NA)	21 706	49	17.62
1976 ASM----	9 433	8 698	67	1 892	3.75	39	70	29	18 289	51	14.32
1975 ASM----	9 035	7 119	66	1 928	3.62	40	72	25	16 869	53	13.12
1974 ASM----	8 890	6 719	65	1 962	3.66	36	67	23	18 463	48	14.28
1973 ASM----	7 593	6 428	69	1 920	3.35	32	64	27	16 065	47	12.08
1972 Census--	7 802	6 209	67	1 945	3.36	33	68	27	15 000	52	11.35
INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS											
1977 Census--	11 591	(NA)	73	2 050	4.77	59	75	(NA)	30 726	37	20.50
1976 ASM----	11 743	11 538	69	2 074	4.71	59	74	15	30 871	38	21.50
1975 ASM----	10 697	12 488	67	1 965	4.15	56	72	18	28 674	37	21.63
1974 ASM----	9 872	9 854	69	1 973	4.16	57	75	17	24 345	40	17.85
1973 ASM----	9 137	6 896	70	1 975	3.81	57	77	14	19 448	46	13.92
1972 Census--	9 442	7 596	73	2 052	3.57	51	72	16	21 807	43	14.53
1971 ASM----	7 353	8 092	69	1 933	3.13	50	70	21	18 246	40	13.63
1970 ASM----	7 031	7 825	69	1 977	2.88	52	71	21	17 063	41	12.35
1969 ASM----	7 156	7 765	71	2 108	2.76	55	75	22	16 015	44	10.56
1968 ASM----	6 966	7 916	71	2 069	2.79	56	76	22	14 966	46	10.08
1967 Census--	6 430	6 846	67	2 045	2.64	54	74	21	14 430	44	10.42
1966 ASM----	6 293	(NA)	65	2 026	2.66	55	74	(NA)	15 517	40	11.68
1965 ASM----	6 034	(NA)	68	2 000	2.52	53	73	(NA)	14 431	41	10.46
1964 ASM----	6 000	6 267	69	2 076	2.30	53	73	21	13 910	43	9.61
1963 Census--	5 727	5 800	69	2 026	2.28	55	76	20	12 436	46	8.88

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3961, COSTUME JEWELRY											
1977 Census--	8 621	(NA)	82	1 736	3.76	41	67	(NA)	19 368	44	13.43
1976 ASM----	8 152	4 213	83	1 776	3.51	42	69	13	17 689	46	11.87
1975 ASM----	7 666	3 420	85	1 808	3.10	39	62	10	20 488	37	13.19
1974 ASM----	7 119	3 427	84	1 792	3.00	42	67	12	16 522	43	10.96
1973 ASM----	6 408	3 434	93	1 795	2.70	44	73	15	12 506	51	8.35
1972 Census--	6 172	3 626	82	1 823	2.56	42	70	16	12 883	47	8.58
1971 ASM----	6 114	4 023	80	1 864	2.51	38	65	17	13 738	44	9.10
1970 ASM----	5 747	3 465	82	1 921	2.34	40	70	17	11 491	50	7.28
1969 ASM----	5 044	3 178	85	1 928	2.07	41	69	17	10 441	48	6.33
1968 ASM----	5 071	3 284	85	1 953	2.05	43	71	18	10 488	48	6.25
1967 Census--	4 772	3 116	86	1 891	2.01	42	71	18	9 843	48	5.00
1966 ASM----	4 370	(NA)	85	1 935	1.83	45	73	(NA)	8 643	50	5.21
1965 ASM----	4 215	(NA)	82	1 920	1.78	44	73	(NA)	8 159	51	5.14
1964 ASM----	4 059	2 115	83	1 939	1.72	46	76	15	7 285	55	4.47
1963 Census--	3 930	2 046	83	1 895	1.73	47	77	15	6 958	56	4.37
INDUSTRY 3962, ARTIFICIAL FLOWERS											
1977 Census--	7 458	(NA)	83	1 720	3.42	49	70	(NA)	18 450	40	12.88
1976 ASM----	7 894	7 552	86	1 606	4.39	50	73	21	17 421	45	12.49
1975 ASM----	7 666	7 638	86	1 967	3.36	51	74	23	15 388	49	9.08
1974 ASM----	6 487	7 073	87	1 638	3.28	53	74	23	15 219	42	10.57
1973 ASM----	5 454	4 490	85	1 702	2.57	52	75	18	11 545	47	7.93
1972 Census--	5 562	4 895	87	1 738	2.46	47	72	21	11 979	46	7.87
1971 ASM----	5 529	(S)	88	1 800	2.35	47	69	(S)	13 000	42	8.18
1970 ASM----	5 236	(S)	86	1 878	2.09	45	69	(S)	11 605	45	7.11
1969 ASM----	4 408	(S)	89	1 613	2.19	49	73	(S)	9 408	46	6.49
1968 ASM----	4 183	(S)	89	1 659	2.04	52	75	(S)	8 877	47	5.95
1967 Census--	3 884	2 788	88	1 717	1.87	48	72	17	8 326	46	5.48
1966 ASM----	3 973	(NA)	86	1 727	1.87	52	72	(NA)	9 657	41	6.43
1965 ASM----	3 690	(NA)	85	1 722	1.79	54	75	(NA)	8 500	43	5.75
1964 ASM----	3 541	2 020	85	1 853	1.65	49	75	14	6 875	51	4.34
1963 Census--	3 260	1 740	86	1 767	1.59	50	77	14	5 840	55	3.84
INDUSTRY 3963, BUTTONS											
1977 Census--	9 623	(NA)	82	1 793	4.24	45	77	(NA)	15 644	61	10.61
1976 ASM----	8 909	7 575	81	1 888	3.82	46	76	25	16 090	55	10.41
1975 ASM----	8 967	8 645	83	1 769	3.93	45	73	27	17 096	52	11.52
1974 ASM----	8 200	8 266	86	1 807	3.44	48	74	26	16 733	49	10.68
1973 ASM----	7 100	6 125	82	1 848	3.01	45	75	25	13 050	54	8.55
1972 Census--	6 675	6 000	80	1 875	2.93	45	74	25	12 950	51	8.63
1971 ASM----	6 444	6 111	77	1 857	2.80	46	74	25	12 622	51	8.73
1970 ASM----	5 673	5 306	79	1 948	2.36	45	74	27	10 428	54	6.72
1969 ASM----	6 195	5 282	82	1 921	2.57	46	75	25	11 673	53	7.35
1968 ASM----	5 568	4 764	82	1 976	2.30	46	76	25	10 509	52	6.45
1967 Census--	4 937	5 166	85	1 951	2.10	43	73	30	9 604	51	5.76
1966 ASM----	4 547	(NA)	84	1 822	1.98	40	73	(NA)	8 150	55	5.26
1965 ASM----	4 188	(NA)	86	1 804	1.95	41	73	(NA)	7 811	53	4.98
1964 ASM----	4 250	4 788	82	2 000	1.81	41	66	28	9 769	43	5.90
1963 Census--	4 107	4 500	83	1 936	1.81	46	74	30	7 821	52	4.81
INDUSTRY 3964, NEEDLES, PINS, AND FASTENERS											
1977 Census--	9 341	(NA)	78	1 963	4.07	44	69	(NA)	21 173	44	13.67
1976 ASM----	8 389	13 670	76	1 944	3.78	43	66	37	21 323	39	14.41
1975 ASM----	8 091	14 352	77	1 898	3.54	43	67	42	18 143	44	12.39
1974 ASM----	7 682	12 705	77	1 924	3.40	43	69	42	17 429	44	11.66
1973 ASM----	7 135	10 109	78	1 920	3.16	41	67	36	16 687	42	11.12
1972 Census--	6 816	(S)	79	1 987	2.95	41	65	(S)	16 559	41	10.45
1971 ASM----	6 647	10 915	79	1 970	2.81	41	66	41	15 497	42	9.85
1970 ASM----	6 221	(S)	79	1 994	2.62	41	66	(S)	14 589	42	9.17
1969 ASM----	5 703	6 650	82	2 017	2.41	44	71	31	12 111	47	7.31
1968 ASM----	5 525	6 314	82	2 043	2.32	43	69	29	12 025	45	7.13
1967 Census--	5 265	6 005	82	2 000	2.21	43	69	29	11 359	46	6.85
1966 ASM----	4 843	(NA)	82	1 951	2.12	44	71	(NA)	10 424	46	6.46
1965 ASM----	4 718	(NA)	82	1 966	2.07	43	69	(NA)	10 527	44	6.50
1964 ASM----	4 878	4 380	81	2 142	1.99	43	69	24	10 624	45	6.06
1963 Census--	4 403	3 871	82	1 952	1.96	43	69	23	9 403	46	5.85

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3951, PENS AND MECHANICAL PENCILS														
United States	-	**141**	**78**	**13.2**	**135.6**	**10.4**	**20.6**	**92.9**	**419.8**	**257.4**	**669.8**	**32.8**	**10.9**	**213.7**
New England Division:														
Rhode Island	-	4	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	6	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E3	31	12	0.9	7.3	0.7	1.3	5.2	17.7	14.0	31.4	0.5	(NA)	(D)
New Jersey	-	26	14	1.5	14.5	1.2	2.4	9.3	38.5	32.0	69.6	1.9	0.9	16.4
Pennsylvania	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Illinois	-	9	7	0.8	9.4	0.5	1.1	4.5	20.7	16.7	37.3	0.6	(NA)	(D)
Wisconsin	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Iowa	-	2	2	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Missouri	-	4	4	0.7	5.6	0.6	1.2	3.7	9.9	9.2	19.5	(D)	(NA)	(D)
South Atlantic Division:														
North Carolina	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E1	6	2	0.3	2.2	0.2	0.4	1.4	7.7	2.6	10.1	(D)	(NA)	(D)
East South Central Division:														
Tennessee	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	8	5	0.5	2.9	0.4	0.6	1.6	4.5	5.7	10.1	0.4	(NA)	(NA)
Pacific Division:														
California	-	17	9	2.0	21.4	1.6	3.2	14.5	72.9	57.4	127.7	7.1	(NA)	(D)
INDUSTRY 3952, LEAD PENCILS AND ART GOODS														
United States	-	**134**	**46**	**6.6**	**63.1**	**4.7**	**9.2**	**37.6**	**145.5**	**134.0**	**275.9**	**10.8**	**7.1**	**108.2**
New England Division:														
Connecticut	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	24	8	0.9	9.7	0.6	1.2	5.7	20.4	25.1	44.2	0.5	(NA)	(D)
New Jersey	E1	13	4	0.4	4.7	0.3	0.5	2.3	9.3	6.5	16.1	0.5	0.5	9.7
Pennsylvania	-	7	6	1.5	14.4	1.2	2.4	9.7	39.9	18.0	57.0	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	5	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Indiana	-	3	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West North Central Division:														
Kansas	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
South Atlantic Division:														
Georgia	-	3	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
East South Central Division:														
Tennessee	-	9	8	1.6	12.9	1.2	2.5	8.2	29.6	45.7	74.3	3.2	(NA)	(D)
Pacific Division:														
California	E2	23	4	0.3	2.1	0.2	0.3	1.2	4.4	4.9	9.3	0.2	(NA)	(D)
INDUSTRY 3953, MARKING DEVICES														
United States	E1	**612**	**86**	**7.4**	**78.7**	**4.7**	**9.1**	**39.6**	**160.0**	**90.3**	**248.7**	**5.5**	**8.1**	**121.5**
New England Division:														
Massachusetts	E2	30	3	0.3	3.0	0.2	0.3	1.3	4.8	2.3	7.2	0.1	0.4	4.8
Middle Atlantic Division:														
New York	E1	60	7	0.7	7.6	0.5	0.9	3.8	12.9	5.9	18.5	0.2	0.8	11.1
New Jersey	E3	28	1	0.2	2.2	0.2	0.3	1.3	3.9	2.7	6.5	0.1	0.4	6.5
Pennsylvania	-	33	6	0.6	7.0	0.4	0.8	3.6	11.8	8.5	20.2	0.3	0.8	10.4
East North Central Division:														
Ohio	-	37	8	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	7.8
Illinois	-	51	13	1.5	16.6	0.9	1.7	7.7	35.6	22.5	57.1	(D)	1.3	22.8
Michigan	-	30	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Wisconsin	-	12	1	0.2	0.6	0.1	0.2	0.3	4.7	1.2	5.9	(D)	(NA)	(NA)
West North Central Division:														
Missouri	-	9	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	6.0
South Atlantic Division:														
Georgia	-	13	5	0.5	5.3	0.3	0.7	2.7	14.0	6.1	20.5	(D)	0.5	3.9
West South Central Division:														
Texas	E3	39	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.2
Pacific Division:														
California	E1	75	14	0.7	8.1	0.5	0.9	4.2	17.4	9.3	26.4	0.4	(NA)	(D)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS														
United States	-	**100**	**51**	**4.6**	**53.7**	**3.4**	**6.9**	**33.1**	**142.4**	**205.4**	**344.0**	**8.2**	**5.2**	**113.4**
New England Division:														
Connecticut	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	-	15	10	0.9	11.0	0.6	1.2	5.9	23.2	36.2	58.2	1.0	(NA)	(D)
New Jersey	-	10	6	0.5	5.8	0.4	0.8	4.3	14.5	18.9	33.8	1.3	0.5	15.4
Pennsylvania	E1	8	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Ohio	-	4	3	0.4	4.5	0.2	0.5	2.4	8.0	11.0	18.7	0.5	(NA)	(D)
Illinois	-	4	3	0.3	4.0	0.2	0.4	1.9	10.2	18.3	28.4	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
West South Central Division:														
Arkansas	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mountain Division:														
Colorado	-	3	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	-	18	7	0.5	6.3	0.4	0.9	4.3	17.6	23.3	40.6	0.6	(NA)	(D)
INDUSTRY 3961, COSTUME JEWELRY														
United States	-	**847**	**236**	**25.0**	**215.9**	**20.8**	**36.1**	**136.1**	**485.1**	**338.9**	**816.6**	**17.6**	**21.4**	**275.7**
New England Division:														
Massachusetts	-	49	17	3.1	31.7	2.5	4.3	17.5	70.4	43.5	114.0	(D)	2.9	41.6
Rhode Island	-	315	119	13.1	105.9	11.0	19.0	69.4	248.8	185.0	428.4	8.5	8.9	117.2
Connecticut	-	12	5	1.9	21.4	1.5	2.9	14.2	41.5	24.1	65.9	1.6	(NA)	(D)
Middle Atlantic Division:														
New York	E1	207	52	3.6	30.7	2.9	5.2	18.9	66.2	50.7	115.2	1.9	4.9	61.9
New Jersey	-	18	8	0.7	5.7	0.6	0.9	3.5	12.4	7.4	19.7	(D)	(NA)	(D)
Pennsylvania	-	10	3	0.3	2.0	0.3	0.4	1.3	3.8	3.2	7.0	(D)	(NA)	(D)
East North Central Division:														
Illinois	E2	13	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.3	3.1
Mountain Division:														
Colorado	E2	11	3	0.2	0.7	0.1	0.1	0.3	1.1	0.9	2.1	(D)	(NA)	(NA)
Pacific Division:														
California	E1	86	18	1.4	11.0	1.1	2.1	7.0	24.7	12.3	36.9	1.5	0.8	10.9
INDUSTRY 3962, ARTIFICIAL FLOWERS														
United States	-	**232**	**86**	**4.4**	**33.2**	**3.7**	**6.4**	**21.8**	**82.1**	**77.1**	**156.3**	**2.7**	**4.8**	**57.5**
Middle Atlantic Division:														
New York	-	45	15	1.1	9.0	0.9	1.7	6.0	21.1	24.2	45.1	0.5	1.1	11.1
New Jersey	-	17	8	0.4	3.4	0.3	0.6	2.4	6.7	6.0	12.4	0.3	0.3	3.6
Pennsylvania	E2	15	5	0.2	1.3	0.1	0.2	0.9	2.8	2.6	5.5	(D)	0.9	11.0
East North Central Division:														
Illinois	E2	9	2	0.2	1.2	0.2	0.3	0.8	4.4	3.1	7.4	0.2	(NA)	(NA)
Wisconsin	E1	11	3	0.2	0.8	0.1	0.1	0.5	1.7	0.5	2.1	(D)	(NA)	(NA)
West North Central Division:														
Missouri	-	5	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Alabama	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Texas	-	13	6	0.3	2.2	0.3	0.5	1.4	4.6	2.8	7.4	(D)	(NA)	(D)
Pacific Division:														
California	E1	38	9	0.5	3.9	0.4	0.8	2.5	11.2	7.3	18.4	0.4	(NA)	(D)
INDUSTRY 3963, BUTTONS														
United States	E1	**159**	**47**	**3.2**	**30.8**	**2.6**	**4.7**	**20.0**	**50.0**	**43.1**	**95.2**	**1.4**	**4.0**	**51.8**
New England Division:														
Connecticut	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	E1	89	22	1.6	16.6	1.3	2.3	10.0	23.2	20.2	45.4	0.5	2.3	28.8
New Jersey	E1	11	5	0.3	2.9	0.2	0.5	1.8	4.7	3.3	8.0	0.1	(NA)	(D)
West North Central Division:														
Iowa	-	5	4	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E1	16	3	0.2	1.2	0.1	0.2	0.9	2.3	1.9	4.3	0.1	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3964, NEEDLES, PINS, AND FASTENERS														
United States	-	**275**	**117**	**17.7**	**165.6**	**14.0**	**27.5**	**111.8**	**375.4**	**302.8**	**674.2**	**22.0**	**20.2**	**334.5**
New England Division:														
New Hampshire	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	E1	7	2	0.2	2.1	0.2	0.3	1.5	6.4	3.3	9.9	0.1	0.3	6.0
Rhode Island	-	13	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Connecticut	-	28	19	2.8	31.3	2.1	4.0	19.9	68.0	52.4	120.6	3.6	3.4	56.6
Middle Atlantic Division:														
New York	E2	96	34	2.9	24.1	2.4	4.5	16.7	51.7	47.6	99.2	1.9	3.6	48.8
New Jersey	E1	14	6	1.0	10.7	0.8	1.4	6.1	13.5	13.9	27.2	(D)	(NA)	(D)
Pennsylvania	-	5	4	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
East North Central Division:														
Indiana	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Illinois	E3	12	5	0.3	2.5	0.2	0.5	1.7	7.6	5.7	13.2	0.2	0.9	13.1
Wisconsin	-	4	3	0.2	1.6	0.2	0.3	1.3	3.5	1.7	5.2	(D)	(NA)	(NA)
South Atlantic Division:														
Virginia	-	2	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
North Carolina	-	9	6	1.1	8.7	0.9	1.8	6.7	17.8	24.9	42.1	(D)	(NA)	(D)
South Carolina	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	-	5	4	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida	E8	7	3	0.3	2.4	0.2	0.4	1.5	7.2	4.9	11.1	(D)	(NA)	(D)
East South Central Division:														
Kentucky	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	-	3	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Mississippi	-	1	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pacific Division:														
California	E2	17	6	0.3	2.2	0.2	0.4	1.2	5.6	6.4	11.1	0.2	0.5	4.1

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. Summary Statistics for the Industry: 1977

[For explanation of terms, see appendix A]

Item	Unit of measure	Pens, and mechanical pencils (SIC 3951)	Lead pencils and art goods (SIC 3952)	Marking devices (SIC 3953)	Carbon paper and inked ribbons (SIC 3955)	Costume jewelry (SIC 3961)	Artificial flowers (SIC 3962)	Buttons (SIC 3963)	Needles, pins, and fasteners (SIC 3964)
Primary product specialization ratio[1]	percent	85	85	85	96	92	98	98	92
Coverage ratio[2]	do	94	79	88	64	89	91	82	95
All establishments	number	141	134	612	100	847	232	159	275
With 1 to 19 employees	do	53	88	526	49	611	166	112	158
With 20 to 99 employees	do	50	31	75	38	180	58	42	70
With 100 employees or more	do	28	15	11	13	56	8	5	47
All employees, average for year	1,000	13.2	6.6	7.4	4.6	25.0	4.4	3.2	17.7
Payroll for year, all employees	mil. dol.	135.6	63.1	78.7	53.7	215.9	33.2	30.8	165.6
Production workers:									
Average for year	1,000	10.4	4.7	4.7	3.4	20.8	3.7	2.6	14.0
March	do	10.0	4.6	4.6	3.4	20.5	3.3	2.7	13.7
May	do	10.3	4.8	4.7	3.4	20.1	3.5	2.8	14.0
August	do	10.4	4.8	4.7	3.4	20.2	4.0	2.6	14.0
November	do	11.1	4.7	4.8	3.3	22.5	4.0	2.4	14.2
Hours	millions	20.6	9.2	9.1	6.9	36.1	6.4	4.7	27.5
January to March	do	5.0	2.2	2.3	1.8	9.0	1.5	1.2	6.7
April to June	do	5.2	2.4	2.3	1.8	9.2	1.8	1.3	7.4
July to September	do	4.9	2.4	2.1	1.7	8.7	1.6	1.1	6.5
October to December	do	5.5	2.3	2.4	1.7	9.2	1.5	1.1	7.0
Wages	mil. dol.	92.9	37.6	39.6	33.1	136.1	21.8	20.0	111.8
Cost of materials, etc.	do	257.4	134.0	90.3	205.4	338.9	77.1	43.1	302.8
Materials, parts, containers, etc., consumed	do	214.1	113.4	70.4	190.8	255.6	70.1	35.9	272.2
Resales	do	32.4	13.3	(D)	(D)	31.7	(D)	(D)	12.4
Fuels consumed	do	1.2	1.6	0.9	1.4	3.0	0.8	0.7	3.4
Purchased electric energy	do	5.4	2.4	1.7	2.1	4.8	0.7	1.4	7.9
Contract work	do	4.3	3.2	(D)	(D)	43.9	(D)	(D)	6.8
Value of shipments, including resales	do	669.8	275.9	248.7	344.0	816.6	156.3	95.2	674.2
Value of resales	do	40.7	23.6	(D)	(D)	62.9	(D)	(D)	17.8
Value added by manufacture	do	419.8	145.5	160.0	142.4	485.1	82.1	50.0	375.4
Manufacturers' inventories:									
Beginning of year	do	108.6	64.2	30.8	44.7	110.6	21.5	17.6	105.8
Finished products	do	39.4	28.2	12.8	15.6	45.7	10.4	6.7	31.8
Work in process	do	28.8	13.4	7.4	8.1	27.7	2.0	5.2	44.1
Materials, supplies, fuel, etc.	do	40.5	22.7	10.6	21.0	37.2	9.1	5.7	29.9
End of year	do	123.1	70.9	34.3	47.8	119.6	26.5	13.9	111.6
Finished products	do	37.9	30.9	13.5	17.1	51.5	12.8	6.3	31.7
Work in process	do	37.6	14.3	8.3	10.4	29.2	2.6	3.5	48.1
Materials, supplies, fuel, etc.	do	47.6	25.7	12.5	20.3	38.9	11.2	4.1	31.7
Capital expenditures for plant and equipment	do	34.1	10.9	5.9	7.6	18.2	3.5	1.6	35.0
New capital expenditures	do	32.8	10.8	5.5	6.2	17.6	2.7	1.4	22.0
New buildings and other structures	do	9.1	1.8	0.8	0.9	7.8	1.0	0.3	3.0
New machinery and equipment	do	23.7	9.0	4.7	5.3	9.8	1.7	1.2	19.0
Used capital expenditures	do	1.2	0.1	0.4	1.4	0.6	0.8	0.2	12.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Pens and mechanical pencils (SIC 3951)		Lead pencils and art goods (SIC 3952)		Marking devices (SIC 3953)		Carbon paper and inked ribbons (SIC 3955)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(1.1)	38	(D)	3	(0.5)	30	(D)	14
Response coverage ratio[2] (percent)	64	(X)	53	(X)	76	(X)	37	(X)
Machinery	4.7	9	1.1	7	(11.8)	(A)	1.2	7
Response coverage ratio[2] (percent)	68	(X)	48	(X)	72	(X)	68	(X)
Cost of purchased communication services	(1.8)	23	(1.0)	27	(17.2)	(A)	0.8	7
Response coverage ratio[2] (percent)	82	(X)	81	(X)	76	(X)	43	(X)
Rental payments	3.8	6	3.6	7	2.5	12	3.4	9
Buildings and other structures	2.1	11	2.5	11	(1.1)	30	(2.1)	17
Machinery and equipment	1.7	11	1.0	4	(1.3)	19	1.3	11
Supplemental labor costs	25.5	2	12.9	1	10.3	6	10.3	1
Legal costs	11.3	1	6.3	2	5.4	7	4.3	1
Voluntary costs	14.2	3	6.6	2	4.9	10	6.0	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	48.2	3	23.2	4	(20.1)	20	11.3	6
New capital expenditures	8.7	3	1.5	11	(0.3)	68	(0.7)	18
Used capital expenditures	0.2	1	0.1	1	-	(X)	0.9	7
Retirements	(0.3)	34	(0.3)	15	(0.5)	29	1.0	3
End of year	56.8	3	24.5	4	(19.9)	20	12.0	7
Machinery and equipment:								
Beginning of year	124.8	3	40.5	4	37.1	13	41.1	4
New capital expenditures	22.4	4	8.7	5	4.6	14	4.6	9
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(0.6)	(A)	(D)	(A)	(D)	(A)	(Z)	(A)
All other[3]	21.4	1	(7.7)	(A)	(4.2)	(A)	(4.1)	(A)
New machinery and equipment, n.s.k.[4]	(D)	(A)	(0.5)	(A)	(Z)	(A)	(D)	(A)
Used capital expenditures	1.0	1	-	(X)	(0.1)	69	0.4	3
Retirements	5.1	8	1.7	7	(4.0)	64	3.8	8
End of year	143.2	2	47.6	4	37.7	13	42.3	4
Total gross value of depreciable assets:								
Beginning of year	173.0	2	63.7	4	57.1	14	52.4	4
New capital expenditures	31.2	3	10.2	5	(4.9)	16	5.3	9
Used capital expenditures	1.2	1	0.1	1	(0.1)	69	1.3	5
Retirements	5.3	9	2.0	8	(4.5)	57	4.8	6
End of year	200.0	2	72.0	4	57.6	14	54.3	4
Depreciation charges during 1977	11.6	3	4.2	4	3.9	14	4.4	4
Buildings and other structures	1.9	5	0.9	8	(0.7)	17	0.5	6
Machinery and equipment	9.8	4	3.4	5	(3.1)	15	4.0	4

See footnotes at end of table.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977—Con.

(For explanation of terms, see appendix A. For description of annual survey of manufactures (ASM), see appendix B)

Item	Costume jewelry (SIC 3961)		Artificial flowers (SIC 3962)		Buttons (SIC 3963)		Needles, pins, and fasteners (SIC 3964)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:								
Cost of purchased services for repair of--								
Buildings and other structures	(D)	14	(D)	1	-	(X)	(0.5)	24
Response coverage ratio[2] (percent)	62	(X)	44	(X)	56	(X)	58	(X)
Machinery	1.7	8	0.7	4	(D)	25	4.9	7
Response coverage ratio[2] (percent)	62	(X)	51	(X)	50	(X)	58	(X)
Cost of purchased communication services	(1.8)	19	(D)	33	(D)	35	2.2	9
Response coverage ratio[2] (percent)	62	(X)	70	(X)	49	(X)	69	(X)
Rental payments	5.6	12	2.0	12	1.9	10	5.5	5
Buildings and other structures	3.3	14	1.6	13	1.4	14	2.1	6
Machinery and equipment	2.3	14	0.4	6	(0.4)	44	3.4	5
Supplemental labor costs	29.2	4	4.6	4	4.4	2	34.5	1
Legal costs	16.6	5	3.3	5	2.6	3	16.5	1
Voluntary costs	12.6	4	1.3	6	1.8	8	18.0	2
Gross value of depreciable assets:								
Buildings and other structures:								
Beginning of year	31.1	11	13.8	9	4.1	10	51.2	3
New capital expenditures	(12.1)	58	(1.2)	27	0.2	19	2.2	7
Used capital expenditures	(Z)	53	0.7	1	-	(X)	6.1	7
Retirements	(0.5)	36	0.4	15	-	(X)	6.3	1
End of year	(42.7)	18	15.2	8	4.2	10	53.2	3
Machinery and equipment:								
Beginning of year	51.6	6	15.7	11	23.8	9	202.4	3
New capital expenditures	(13.4)	18	(1.6)	22	(0.7)	17	15.7	6
Automobiles, trucks, etc., for highway use[3]	(D)	(A)	(D)	(A)	(Z)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(Z)	(A)	(D)	(A)	-	(X)	(D)	(A)
All other[3]	(11.4)	(A)	(1.2)	(A)	(D)	(A)	(D)	(A)
New machinery and equipment, n.s.k.[4]	1.7	(A)	(D)	(A)	(D)	(A)	(D)	(A)
Used capital expenditures	(0.5)	39	0.1	1	(D)	37	7.9	10
Retirements	2.4	14	(1.1)	22	(D)	26	16.7	2
End of year	63.1	6	16.3	10	24.3	8	209.4	2
Total gross value of depreciable assets:								
Beginning of year	82.7	7	29.6	9	27.9	8	253.6	2
New capital expenditures	(25.5)	36	(2.8)	24	(0.9)	15	18.0	6
Used capital expenditures	(0.6)	38	0.7	1	(0.1)	37	14.0	7
Retirements	2.9	14	(1.6)	16	(0.4)	27	22.9	2
End of year	105.9	10	31.5	8	28.6	8	262.6	2
Depreciation charges during 1977	6.3	6	1.7	9	1.9	8	15.8	3
Buildings and other structures	1.4	10	0.6	11	0.2	11	1.6	4
Machinery and equipment	4.9	6	1.1	9	1.8	9	14.2	3

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3951, PENS AND MECHANICAL PENCILS												
Total	-	141	13.2	135.6	10.4	20.6	92.9	419.6	257.4	689.8	32.8	123.1
Establishments with an average of—												
1 to 4 employees	E7	33	0.1	0.4	0.1	0.1	0.3	1.3	0.9	2.4	0.1	0.4
5 to 9 employees	E7	12	0.1	0.8	0.1	0.1	0.5	2.0	1.3	3.2	0.1	0.8
10 to 19 employees	E7	18	0.3	2.6	0.2	0.4	1.8	6.5	3.9	10.4	0.3	2.0
20 to 49 employees	E1	22	0.8	7.4	0.6	1.2	5.1	15.0	12.9	27.5	0.8	5.0
50 to 99 employees	E1	28	2.0	15.6	1.7	3.2	10.7	38.0	48.0	85.5	2.0	12.4
100 to 249 employees	-	15	2.5	21.3	2.0	3.9	14.4	48.7	46.6	95.3	1.6	19.4
250 to 499 employees	-	8	2.3	22.0	1.6	3.2	12.6	51.3	37.2	86.6	5.3	16.3
500 to 999 employees	-	3	(5.2)	(65.4)	(4.2)	(8.5)	(47.4)	(257.0)	(106.5)	(358.9)	(22.5)	(66.8)
1,000 to 2,499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	49	0.3	3.1	0.3	0.5	2.0	8.4	5.0	13.4	0.5	2.7
INDUSTRY 3952, LEAD PENCILS AND ART GOODS												
Total	-	134	6.6	63.1	4.7	9.2	37.6	145.5	134.0	275.9	10.8	70.9
Establishments with an average of—												
1 to 4 employees	E9	53	0.1	0.6	0.1	0.1	0.3	0.7	1.2	2.5	0.1	0.7
5 to 9 employees	E6	17	0.1	0.9	0.1	0.2	0.6	1.7	1.3	2.9	0.1	0.7
10 to 19 employees	-	18	0.2	2.4	0.2	0.3	1.4	5.0	6.3	11.3	0.1	1.8
20 to 49 employees	-	21	0.7	6.3	0.5	1.0	3.6	13.9	16.9	30.7	0.5	5.4
50 to 99 employees	-	10	0.7	6.2	0.5	1.0	3.7	17.4	15.3	31.9	0.6	7.8
100 to 249 employees	-	6	1.0	9.0	0.7	1.4	5.4	15.9	18.8	33.9	(9.5)	9.1
250 to 499 employees	-	6	(3.8)	(37.7)	(2.7)	(5.3)	(22.6)	(90.9)	(74.4)	(162.7)	(D)	(45.5)
500 to 999 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	56	0.1	1.1	0.1	0.2	0.6	2.1	1.9	4.0	0.1	1.1
INDUSTRY 3953, MARKING DEVICES												
Total	E1	612	7.4	78.7	4.7	9.1	39.6	160.0	90.3	248.7	5.5	34.3
Establishments with an average of—												
1 to 4 employees	E8	314	0.5	5.3	0.4	0.6	2.6	10.7	7.4	18.3	0.3	2.4
5 to 9 employees	E2	115	0.8	8.0	0.5	0.9	4.0	14.9	8.7	23.3	0.4	2.3
10 to 19 employees	-	97	1.3	13.5	0.8	1.6	6.8	23.5	12.6	35.9	0.7	3.3
20 to 49 employees	-	61	1.9	21.9	1.2	2.4	11.1	40.3	23.0	62.6	1.0	7.9
50 to 99 employees	-	14	0.9	8.8	0.6	1.2	5.4	17.3	9.6	27.2	0.5	3.5
100 to 249 employees	-	11	2.0	21.2	1.2	2.4	9.7	53.3	29.0	81.4	2.8	14.9
Covered by administrative records[2]	E0	295	0.6	5.7	0.4	0.7	2.8	11.3	8.3	19.5	0.3	2.7
INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS												
Total	-	100	4.6	53.7	3.4	6.9	33.1	142.4	205.4	344.0	6.2	47.8
Establishments with an average of—												
1 to 4 employees	E8	23	(Z)	0.4	(Z)	(Z)	0.2	0.8	1.2	2.0	0.1	0.3
5 to 9 employees	E6	12	0.1	0.9	0.1	0.1	0.6	1.9	3.8	5.7	0.2	0.6
10 to 19 employees	E2	14	0.2	2.4	0.2	0.3	1.6	7.5	15.9	23.1	0.5	2.4
20 to 49 employees	-	23	0.7	8.3	0.5	1.1	5.0	21.4	40.5	61.5	1.0	6.6
50 to 99 employees	-	15	1.0	12.6	0.8	1.6	7.8	36.3	58.7	94.7	1.2	10.0
100 to 249 employees	-	11	(2.6)	(29.1)	(1.9)	(3.8)	(18.0)	(74.6)	(85.3)	(157.0)	(3.2)	(27.8)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	34	0.2	1.9	0.1	0.3	1.1	4.2	6.4	10.6	0.2	1.5
INDUSTRY 3961, COSTUME JEWELRY												
Total	-	847	25.0	215.9	20.8	36.1	136.1	485.1	338.9	816.6	17.6	119.6
Establishments with an average of—												
1 to 4 employees	E6	382	0.6	5.3	0.6	0.9	3.5	15.0	11.2	26.4	0.2	3.2
5 to 9 employees	E3	116	0.8	6.8	0.7	1.2	4.4	16.0	12.6	28.4	0.3	3.9
10 to 19 employees	E1	112	1.5	11.9	1.2	2.0	7.1	29.7	22.1	51.4	0.5	5.6
20 to 49 employees	E1	134	4.0	33.1	3.2	5.4	18.9	67.6	57.0	123.6	5.3	13.8
50 to 99 employees	-	47	3.3	25.6	2.8	4.8	17.1	53.4	37.1	90.0	0.9	12.1
100 to 249 employees	-	35	5.3	41.7	4.5	7.9	26.9	82.5	57.8	138.6	3.4	19.1
250 to 499 employees	-	16	5.9	49.8	5.1	8.8	34.5	105.2	79.9	183.2	5.4	34.5
500 to 999 employees	-	4	(3.6)	(41.7)	(2.7)	(5.1)	(23.8)	(115.7)	(61.2)	(175.1)	(1.6)	(27.6)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E9	316	0.6	5.4	0.6	1.0	3.5	13.4	8.8	22.2	0.2	3.0
INDUSTRY 3962, ARTIFICIAL FLOWERS												
Total	-	232	4.4	33.2	3.7	5.4	21.8	82.1	77.1	156.3	2.7	26.5
Establishments with an average of—												
1 to 4 employees	E9	94	0.1	1.1	0.1	0.2	0.9	2.4	2.4	4.9	(Z)	0.8
5 to 9 employees	E4	34	0.2	2.2	0.2	0.3	1.6	4.4	4.1	8.4	0.1	1.3
10 to 19 employees	E1	38	0.5	4.6	0.4	0.8	2.8	12.1	15.0	25.2	0.3	4.6
20 to 49 employees	-	41	1.3	8.4	1.1	1.7	6.0	19.6	15.7	35.0	0.6	5.6
50 to 99 employees	-	17	1.1	8.2	0.9	1.6	5.4	24.2	20.4	44.1	1.1	5.2
100 to 249 employees	-	7	(1.2)	(8.6)	(1.0)	(1.7)	(5.1)	(19.4)	(19.7)	(38.6)	(0.6)	(9.0)
250 to 499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	92	0.2	1.7	0.2	0.3	1.3	3.6	3.5	7.1	(Z)	1.2

See footnotes at end of table.

Table 4. Industry Statistics by Employment Size of Establishment: 1977—Con.

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3963, BUTTONS												
Total	**E1**	**159**	**3.2**	**30.8**	**2.6**	**4.7**	**20.0**	**50.0**	**43.1**	**95.2**	**1.4**	**13.9**
Establishments with an average of—												
1 to 4 employees	E8	75	0.1	1.2	0.1	0.2	0.8	2.2	1.8	4.0	(Z)	0.4
5 to 9 employees	E4	17	0.1	1.1	0.1	0.2	0.7	1.8	1.6	3.4	(Z)	0.5
10 to 19 employees	E2	20	0.3	2.1	0.2	0.4	1.4	3.8	3.2	6.8	0.2	0.7
20 to 49 employees	–	27	0.8	7.5	0.7	1.2	5.0	13.6	10.6	24.4	0.5	4.2
50 to 99 employees	–	15	1.1	10.2	0.9	1.8	7.3	18.6	18.0	36.6	0.5	4.0
100 to 249 employees	–	5	0.8	8.7	0.6	1.0	4.8	10.0	7.9	19.8	0.2	4.1
Covered by administrative records[2]	E0	68	0.2	1.4	0.2	0.2	0.9	2.4	2.0	4.4	0.1	0.5
INDUSTRY 3964, NEEDLES, PINS, AND FASTENERS												
Total	**–**	**275**	**17.7**	**165.6**	**14.0**	**27.5**	**111.8**	**375.4**	**302.8**	**674.2**	**22.0**	**111.6**
Establishments with an average of—												
1 to 4 employees	E8	79	0.1	1.1	0.1	0.2	0.7	3.0	1.9	4.9	0.1	0.7
5 to 9 employees	E9	35	0.2	2.0	0.2	0.3	1.3	5.1	3.9	8.9	0.2	1.3
10 to 19 employees	E6	44	0.6	5.7	0.5	0.9	3.7	13.4	10.2	23.6	0.5	3.4
20 to 49 employees	E3	41	1.3	11.2	1.0	2.0	7.6	25.4	23.6	48.9	1.2	6.5
50 to 99 employees	–	29	2.0	17.4	1.5	3.0	11.9	41.4	36.8	76.4	2.8	12.2
100 to 249 employees	–	27	4.3	41.1	3.5	7.0	29.5	105.9	79.1	185.6	6.7	25.6
250 to 499 employees	–	14	4.5	39.0	3.6	7.2	27.6	96.2	86.6	181.0	6.9	30.6
500 to 999 employees	–	4	(4.7)	(48.1)	(3.5)	(6.8)	(29.6)	(85.1)	(60.7)	(144.8)	(3.6)	(30.3)
1,000 to 2,499 employees	–	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	135	0.9	7.2	0.7	1.2	4.8	18.3	13.5	31.8	0.7	4.8

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3951	**Pens and mechanical pencils:**										
	Entire industry	141	13.2	135.6	10.4	20.6	92.9	419.8	257.4	669.8	32.8
	Establishments with 75 percent specialization or more	123	10.3	100.3	8.2	16.2	69.8	298.7	195.6	488.5	(D)
3952	**Lead pencils and art goods:**										
	Entire industry	134	6.6	63.1	4.7	9.2	37.6	145.5	134.0	275.9	10.8
	Establishments with 75 percent specialization or more	127	4.3	41.2	3.2	6.2	25.0	101.3	75.1	174.3	7.4
39521	Wood-cased pencils, crayons, and chalk:										
	Establishments with this product class primary	14	2.9	27.3	2.0	3.9	14.9	52.9	62.6	113.8	3.6
	Establishments with 75 percent specialization or more in class	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39522	Artists' equipment:										
	Establishments with this product class primary	44	3.4	32.6	2.4	4.8	20.8	86.4	64.5	148.4	6.8
	Establishments with 75 percent specialization or more in class	41	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3953	**Marking devices:**										
	Entire industry	612	7.4	78.7	4.7	9.1	39.6	160.0	90.3	248.7	5.5
	Establishments with 75 percent specialization or more	582	5.9	60.2	3.9	7.5	31.5	120.9	64.9	184.7	4.2
3955	**Carbon paper and inked ribbons:**										
	Entire industry	100	4.6	53.7	3.4	6.9	33.1	142.4	205.4	344.0	6.2
	Establishments with 75 percent specialization or more	96	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39551	Inked ribbons (all types):										
	Establishments with this product class primary	24	2.5	25.9	1.8	3.7	16.7	70.3	84.0	152.4	3.0
	Establishments with 75 percent specialization or more in class	17	1.5	16.6	1.1	2.3	9.9	37.5	53.1	88.7	1.5
39552	Carbon paper, stencil paper, etc.:										
	Establishments with this product class primary	36	1.9	24.2	1.3	2.8	14.3	63.8	108.6	170.5	2.8
	Establishments with 75 percent specialization or more in class	34	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3961	**Costume jewelry:**										
	Entire industry	847	25.0	215.9	20.8	36.1	136.1	485.1	338.9	816.6	17.6
	Establishments with 75 percent specialization or more	802	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3962	**Artificial flowers:**										
	Entire industry	232	4.4	33.2	3.7	6.4	21.8	82.1	77.1	156.3	2.7
	Establishments with 75 percent specialization or more	224	4.3	31.8	3.5	6.1	21.0	79.7	75.7	152.4	(D)
3963	**Buttons:**										
	Entire industry	159	3.2	30.8	2.6	4.7	20.0	50.0	43.1	95.2	1.4
	Establishments with 75 percent specialization or more	151	3.1	29.2	2.5	4.5	18.9	47.5	40.9	90.5	(D)
3964	**Needles, pins, and fasteners:**										
	Entire industry	275	17.7	165.6	14.0	27.5	111.8	375.4	302.8	674.2	22.0
	Establishments with 75 percent specialization or more	262	15.2	145.2	11.7	23.0	96.2	324.0	261.4	582.4	20.2
39641	Zippers and slide fasteners:										
	Establishments with this product class primary	48	8.6	74.2	6.9	13.4	49.6	177.0	152.5	327.8	8.6
	Establishments with 75 percent specialization or more in class	42	6.4	59.0	4.9	9.5	37.8	133.6	122.4	255.9	7.3
39642	Needles, pins, fasteners, and similar notions:										
	Establishments with this product class primary	63	7.5	78.0	5.8	11.7	53.4	163.4	125.3	287.5	8.8
	Establishments with 75 percent specialization or more in class	52	6.4	67.5	4.9	9.9	45.6	135.7	99.9	235.5	7.5

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. **Industry-Product Analysis—Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967**

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3951	Pens and mechanical pencils									
	1977	669.8	531.5	94.8	43.6	85	562.9	531.5	31.4	94
	1972	310.5	282.9	23.5	4.1	92	311.7	282.9	28.8	91
	1967	211.8	193.1	14.9	3.7	93	210.8	193.1	17.7	92
3952	Lead pencils and art goods									
	1977	275.9	212.8	38.3	24.9	85	268.1	212.8	55.3	79
	1972	198.8	153.6	32.0	13.2	83	174.3	153.6	20.7	88
	1967	158.9	123.7	22.3	12.9	85	133.2	123.7	9.6	93
3953	Marking devices									
	1977	248.7	190.2	33.6	24.9	85	215.9	190.2	25.7	88
	1972	180.0	148.5	16.4	15.1	90	163.4	148.5	14.9	91
	1967	146.3	118.9	13.3	14.2	90	130.8	118.9	11.9	91
3955	Carbon paper and inked ribbons									
	1977	344.0	313.1	12.9	18.0	96	488.9	313.1	175.8	64
	1972	237.5	194.7	21.3	21.5	90	317.5	194.7	122.8	61
	1967	206.8	175.9	11.3	19.6	94	221.5	175.9	45.5	79
3961	Costume jewelry									
	1977	816.6	692.8	56.9	66.9	92	781.5	692.8	88.7	89
	1972	471.6	395.6	31.8	44.2	93	441.7	395.6	46.1	90
	1967	376.5	309.9	16.4	50.2	95	338.2	309.9	28.3	92
3962	Artificial flowers									
	1977	156.3	145.9	3.1	7.2	98	160.1	145.9	14.2	91
	1972	108.7	93.2	7.2	8.3	93	101.8	93.2	8.6	92
	1967	84.7	73.5	2.2	8.9	97	86.3	73.5	12.8	85
3963	Buttons									
	1977	95.2	87.5	2.2	5.5	98	106.2	87.5	18.7	82
	1972	93.7	83.9	5.5	4.3	94	103.1	83.9	19.2	81
	1967	80.8	75.3	2.7	2.8	97	83.8	75.3	8.5	90
3964	Needles, pins, and fasteners									
	1977	674.2	600.4	49.4	24.5	92	633.6	600.4	33.2	95
	1972	574.7	509.9	34.2	30.6	94	553.6	509.9	43.7	92
	1967	385.3	341.6	24.3	19.5	93	381.4	341.6	39.8	89

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Pens and mechanical pencils (SIC 3951)	Lead pencils and art goods (SIC 3952)	Marking devices (SIC 3953)	Carbon paper and inked ribbons (SIC 3955)	Costume jewelry (SIC 3961)	Artificial flowers (SIC 3962)	Buttons (SIC 3963)	Needles, pins, and fasteners (SIC 3964)	Other industries
	Total	(X)	669.8	275.9	248.7	344.0	816.6	156.3	95.2	674.2	(X)
	Primary products	(X)	531.5	212.8	190.2	313.1	692.8	145.9	87.5	600.4	(X)
	Secondary products	(X)	94.8	38.3	33.6	12.9	56.9	3.1	2.2	49.4	(X)
	Miscellaneous receipts	(X)	43.6	24.9	24.9	18.0	66.9	7.2	5.5	24.5	(X)
39510-	Pens, mechanical pencils, and pen points	562.9	531.5	10.0	(D)	-	(D)	-	-	-	18.7
3952-	Lead pencils and art goods	268.1	(D)	212.8	(D)	-	-	-	-	-	42.3
39521	Wood-cased pencils, crayons, and chalk	90.6	(D)	72.3	(D)	-	-	-	-	-	5.9
39522	Artists' equipment	163.9	(D)	127.4	(D)	-	-	-	-	-	35.8
39520	Lead pencils and office and art goods, n.s.k	13.6	-	13.0	-	-	-	-	-	-	.6
39530	Hand stamps, stencils, and other marking devices	215.9	(D)	10.8	190.2	(D)	-	-	-	-	10.9
3955-	Carbon paper and inked ribbons	488.9	-	-	(D)	313.1	-	-	-	-	(D)
39551	Inked ribbons (all types)	246.9	-	-	(D)	125.8	-	-	-	-	(D)
39552	Carbon paper, stencil paper, etc	220.2	-	-	-	(D)	-	-	-	-	(D)
39550	Carbon paper and inked ribbons, n.s.k	21.8	-	-	-	(D)	-	-	-	-	(D)
39610	Costume jewelry and costume novelties	781.5	(D)	-	-	-	692.8	-	-	(D)	88.0
39620	Feathers, plumes, and artifical flowers	160.1	-	-	-	-	-	145.9	-	-	14.2
39630	Buttons and parts	106.2	-	-	(D)	-	(Z)	-	87.5	8.6	(D)
3964-	Needles, pins, and fasteners	633.6	-	-	-	-	-	-	1.5	600.4	31.7
39641	Zippers and slide fasteners	295.0	-	-	-	-	-	-	-	291.2	3.7
39642	Needles, pins, fasteners, and similar notions	278.1	-	-	-	-	-	-	1.5	249.4	27.1
39640	Needles, pins, and fasteners, n.s.k	60.6	-	-	-	-	-	-	-	59.7	.9
	Other shipments by 4-digit product group:										
2641-	Coated and glazed paper	(X)	-	-	(D)	(D)	-	-	-	-	(X)
2649-	Converted paper products, n.e.c	(X)	-	-	(D)	(D)	-	-	-	-	(X)
2751-	Commercial printing, letterpress	(X)	-	-	(D)	-	-	-	-	-	(X)
2782-	Blankbooks and looseleaf binders	(X)	.2	-	(D)	(Z)	-	-	-	-	(X)
2891-	Adhesives and sealants	(X)	(D)	-	-	-	-	-	-	-	(X)
2899-	Chemical preparations, n.e.c	(X)	(D)	(D)	(D)	(D)	(D)	-	-	-	(X)
3069-	Fabricated rubber products, n.e.c	(X)	(D)	6.5	(D)	-	-	-	-	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	-	(D)	-	(D)	(D)	-	(D)	(X)
3479-	Metal coating and allied services	(X)	-	-	(D)	-	(D)	-	-	-	(X)
3579- 3572-	Office machines, n.e.c. and typewriters	(X)	-	-	(D)	-	-	-	-	-	(X)
3842-	Surgical appliances and supplies	(X)	-	-	-	-	(D)	-	-	-	(X)
3911-	Jewelry, precious metal	(X)	-	-	-	-	25.0	-	-	(D)	(X)
3915-	Jewelers' materials and lapidary work	(X)	-	-	-	-	(D)	-	(D)	(D)	(X)
3991-	Brooms and brushes	(X)	(D)	(D)	-	-	-	-	-	(D)	(X)
3999-	Manufacturing industries, n.e.c	(X)	(D)	-	(D)	-	(D)	(D)	(D)	(D)	(X)
	Miscellaneous receipts:										
93000 00	Contract work	(X)	.3	(D)	(D)	(Z)	1.6	(D)	(D)	1.6	(X)
99980 00	Other miscellaneous receipts	(X)	2.6	(D)	(D)	(D)	2.4	-	(D)	5.0	(X)
99989 00	Resales	(X)	40.7	23.6	(D)	(D)	62.9	(D)	(D)	17.8	(X)

1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:	
3951-	3999 Manufacturing industries, n.e.c	(D)
3952-	2834 Pharmaceutical preparations	(D)
	3579 Office machines, n.e.c	(D)
	3811 Engineering and scientific instruments	(D)
3955-	2645 Die cut paper and board	(D)
	2649 Converted paper products, n.e.c	(D)
	2761 Manifold business forms	(D)
	3574 Calculating and accounting machines	(D)
	3579 Office machines, n.e.c	(D)
3961-	2752 Commercial printing lithographic	(D)
	3911 Jewelry, precious metal	(D)
	3999 Manufacturing industries, n.e.c	(D)
3962-	2591 Drapery hardware and blinds and shades	(D)
3963-	3469 Metal stampings, n.e.c	(D)
3964-	2649 Converted paper products, n.e.c	(D)
	3452 Bolts, nuts, screws, rivets, washers	(D)
	3999 Manufacturing industries, n.e.c	(D)

Other industries with over $5 million shipments of primary products--Con.

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	PENS, MECHANICAL PENCILS, AND PEN POINTS						
3951- --	Total	.....	(NA)	(X)	562.9	(X)	311.7
39510 --	Pens, mechanical pencils, and pen points:						
	Pens:						
	Fountain pens, complete, all types, except ball point (retail price):						
39510 01	$1.00 each and under	Millions	3	19.3	34.3	(X)	(3)
39510 05	$1.00 to $5.00 each		2				
39510 06	Over $5.00 each		3				
	Ball point type pens, complete, including roller pens (retail price):						
39510 11	$0.20 each and under		25	868.4	76.5	734.3	50.5
39510 12	$0.21 to $0.30 each		14	256.9	31.4	(X)	22.6
39510 15	$0.31 to $0.50 each		12	94.0	16.3	134.9	15.8
39510 16	$0.51 to $1.00 each		14	53.6	18.4	37.1	12.4
39510 17	$1.01 to $2.00 each		9	25.1	15.0	15.6	13.2
39510 18	$2.01 and over		9	42.6	86.8	15.7	31.7
	Soft tip pens (fine point marker):						
39510 21	Fibre-tipped		24	446.4	69.6	176.4	30.4
39510 23	Porous-tipped		10	104.9	15.1	(X)	15.9
39510 29	Other		1				
39510 41	Desk sets, including fountain pen type, ball point type, and inkwell reservoir (dip) type		10	4.7	10.3	5.1	6.5
39510 43	Broad tipped markers, including felt tipped, fibre tipped, and porous tipped		16	188.7	31.4	69.6	17.2
39510 54	Mechanical pencils	Millions	17	45.4	32.5	76.6	21.6
39510 63	Miscellaneous pen and mechanical pencil parts, for sale separately, such as pen holders, pen points (all types), renewal parts, etc	.....	22	(X)	58.5	(X)	39.4
39510 71	Refill ink cartridges for ball point pens	Millions	14	3,405.7	30.1	2,303.9	18.7
39510 00	Pens, mechanical pencils, and pen points, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	23.4	(X)	11.2
39510 02	Pens, mechanical pencils, and pen points, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	13.4	(X)	4.6
	LEAD PENCILS AND ART GOODS						
3952- --	Total	.....	(NA)	(X)	268.1	(X)	174.3
39521 --	Wood-cased pencils, crayons, and chalk	.....	(NA)	(X)	90.6	(X)	63.1
	Nonmechanical pencils and graphite sticks:						
	Pencils:						
39521 11	Black graphite	Million gross.	24	13.2	64.0	9.3	42.4
39521 15	Other (indelible, colored, etc.)	Million gross.	12	**1.7	11.6	r1.8	12.1
39521 23	Graphite and colored sticks, including refill sticks for mechanical pencils, for sale separately	.....	8	(X)	6.4	(X)	3.4
39521 53	Crayons and chalk, except artists', including tailor's chalk.	.....	6	(X)	8.6	(X)	4.7
39521 00	Lead pencils and crayons, n.s.k	.....	-	(X)	-	(X)	.5
39522 --	Artists' equipment	.....	(NA)	(X)	163.9	(X)	101.4
39522 13	Artists' equipment, including children's school art equipment, airbrushes, drawing tables and boards, palettes, sketch boxes, pantographs, and pyrography goods, excluding artists' crayons and other art materials	.....	35	(X)	71.8	(X)	53.6
39522 15	Waxed and pressed drawing crayons, including only artists' crayons	.....	3	(X)	91.2	(X)	46.9
39522 19	Other art materials, including modeling clay and other modeling material, chalk, water colors, tempera colors, finger paint, and block printing ink	.....	16				
39522 00	Artists' materials, n.s.k	.....	(NA)	(X)	.9	(X)	.9
39520 00	Wood-cased pencils, crayons, and chalk, n.s.k., typically for establishments with 10 employees or more (see note)	.....	(NA)	(X)	9.7	(X)	5.2
39520 02	Wood-cased pencils, crayons, and chalk, n.s.k., typically for establishments with less than 10 employees (see note)	.....	(NA)	(X)	4.0	(X)	4.6

See footnotes at end of table.

Table 6a. **Products and Product Classes—Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MARKING DEVICES						
3953- --	Total		(NA)	(X)	215.9	(X)	163.4
	Rubber and vinyl stamps:						
39530 13	Hand stamps, type, holders, and dies, custom and stock		100	(X)	36.3	(X)	38.2
39530 15	Permanently inked stamps, excluding printing dies		20	(X)	9.1	(X)	4.7
39530 33	Mechanical hand stamps, self inkers including daters, time and numbering stamps, and metal and rubber wheel band goods		16	(X)	13.9	(X)	17.7
39530 35	Embossing seals, including notary, engineering, corporate, stationery, etc		8	(X)	5.8	(X)	3.5
39530 37	Metal hand stamps; steel incising and embossing dies; letter and figure stamps; type and type holders; steel embossing and incising numbering heads; and nonferrous type and dies		30	(X)	28.2	(X)	15.3
39530 98	Other marking devices, such as stencils, letters, figures and numerals, stamp pads, and branding irons, excluding broad tipped markers		49	(X)	62.6	(X)	40.5
39530 00	Marking devices, n.s.k., typically for establishments with 5 employees or more (see note)		(NA)	(X)	40.5	(X)	19.8
39530 02	Marking devices, n.s.k., typically for establishments with less than 5 employees (see note)		(NA)	(X)	19.5	(X)	23.7
	CARBON PAPER AND INKED RIBBONS						
3955- --	Total		(NA)	(X)	488.9	(X)	317.5
39551 --	Inked ribbons, all types		(NA)	(X)	246.9	(X)	150.0
39551 12	Typewriter fabric ribbons	1,000 dozens	19	**4,019.9	52.4	(NA)	38.1
39551 14	Typewriter film ribbons	↕	12	(S)	109.6	(NA)	50.1
39551 17	Computer (electronic data processing) ribbons	↕	19	**395.0	46.7	(NA)	41.9
39551 19	Other inked ribbons	1,000 dozens	11	2,082.8	37.8	(NA)	19.9
39551 00	Inked ribbons, all types, n.s.k.		(NA)	(X)	.4	(X)	-
39552 --	Carbon paper, stencil paper, etc		(NA)	(X)	220.2	(X)	153.8
	Coated carbon paper (in roll and sheet):						
39552 31	One time	1,000 tons	18	*121.0	130.7	106.2	74.4
39552 35	Other than one time	1,000 tons	12	18.8	14.8	(NA)	19.6
39552 41	Carbon film sheets (plastics)		2	(X)	(4)	(X)	(4)
39552 61	Stencil paper, spirit, and gelatin process master copies including master sets, but excluding mimeograph stencil paper		8	(X)	28.2	(X)	24.3
39552 98	All other, including mimeograph stencil paper		5	(X)	4 43.9	(X)	4 35.5
39552 00	Carbon paper, stencil paper, etc., n.s.k.		(NA)	(X)	2.6	(X)	-
39550 00	Carbon paper, stencil paper, and inked ribbons, n.s.k., typically for establishments with 10 employees or more (see note)		(NA)	(X)	11.2	(X)	9.6
39550 02	Carbon paper, stencil paper, and inked ribbons, n.s.k., typically for establishments with less than 10 employees (see note)		(NA)	(X)	10.6	(X)	4.1

1977 product code	Product	1977		1972, value of product shipments (million dollars)
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	
	COSTUME JEWELRY AND COSTUME NOVELTIES, EXCEPT PRECIOUS METAL			
3961- --	Total	(NA)	781.5	441.7
	Base metal, whether or not electroplated with gold, silver, chromium, etc.:			
39610 11	Rings and ring mountings	39	43.3	28.8
39610 21	Men's jewelry, excluding watch attachments and rings	22	53.1	29.8
39610 31	Women's and children's jewelry and costume novelties, excluding watch attachments and rings	160	402.3	151.6
39610 41	Watch attachments (bracelets for watches)	5	43.2	30.5
39610 51	Fraternal, college, and school jewelry and emblems, including military insignia but excluding rings	21		28.1
39610 72	Other jewelry worn or carried about the person, including religious jewelry, except cigar and cigarette cases and lighters, compacts, and vanity cases	29	25.6	23.3
39610 81	Imitation pearls, including necklaces, made of glass, plastic, or other materials	16	14.3	9.9
39610 91	Compacts and vanity cases, except precious metals and all leather	5	36.2	15.5
39610 98	Other costume jewelry and costume novelties made of plastics, wood, leather, etc	51	42.0	35.8
39610 00	Costume jewelry, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	99.2	47.2
39610 02	Costume jewelry, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	22.2	41.2

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** – Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	ARTIFICIAL FLOWERS						
3962- --	Total	.....	(NA)	(X)	160.1	(X)	101.8
39620 13	Artificial Christmas trees, all types (metal, plastic, etc.)	Millions	18	4.8	48.4	(X)	33.5
	Artificial flowers:						
39620 15	Plastic type	.....	28	(X)	25.4	(X)	25.6
39620 17	Other materials	.....	31	(X)	33.0	(X)	10.9
39620 21	Feathers and plumes	.....	15	(X)	26.9	(X)	8.8
39620 00	Artificial flowers, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	19.4	(X)	10.3
39620 02	Artificial flowers, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	7.1	(X)	12.7
	BUTTONS						
3963- --	Total	.....	(X)	(X)	106.2	(X)	103.1
39630 --	Buttons and parts, except for precious or semiprecious metals and stones:						
	Metal:						
39630 11	Sew-on type	Million gross	9	5.9	17.8	6.7	13.9
39630 15	Other metal buttons, including machanically applied types, etc		10	*9.5	13.3	13.5	9.5
	Plastic:						
39630 41	Polyester		18	43.6	31.9	64.6	25.0
39630 51	Other plastics, including casein	Million gross	13	*18.0	13.1	49.6	16.6
39630 61	Button blanks or molds, backs, and parts for sale as such	.....	7	(X)	6.9	(X)	13.3
39630 98	Other buttons, fabric covered, wood, bone and hoof, vegetable ivory, leather, and pearl or shell, etc	Million gross	8	1.5	6.8	(X)	9.4
39630 00	Buttons, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(X)	(X)	12.0	(X)	9.0
39630 02	Buttons, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(X)	(X)	4.4	(X)	6.4
	NEEDLES, PINS, AND FASTENERS						
3964- --	Total	.....	(NA)	(X)	633.6	(X)	553.6
39641 --	Zippers and slide fasteners (each 12 inches is one unit when sold in continuous chain)	.....	(NA)	(X)	295.0	(X)	254.5
39641 22	Nylon	Millions	13	1,325.4	119.4	1,189.6	135.3
39641 23	Other plastics		6	115.5	10.3		
	Metal:						
39641 31	Aluminum		20	931.0	54.7	957.1	55.6
39641 33	Brass		15	377.2	61.0	351.7	42.9
39641 39	Other	Millions	10	338.1	48.0	210.4	19.5
39641 00	Zippers and slide fasteners, n.s.k	.....	(NA)	(X)	1.6	(X)	1.2
39642 --	Needles, pins, fasteners (except slide), and similar notions	.....	(NA)	(X)	278.1	(X)	265.7
	Snap fasteners:						
39642 11	Sew-on type	Thousand great gross.	3	131.5	1.3	799.3	8.2
39642 19	Other snap fasteners, such as 4-part, riveted, or mechanically applied type, etc	Thousand great gross.	8	*1,571.3	52.4	(X)	55.8
39642 21	Metal buckles for wearing apparel, including those covered with fabric or other material, but excluding costume jewelry	.....	24	(X)	37.8	(X)	37.6
39642 32	Other buckles, except shoe	.....	6	(X)	5.0	(X)	54.1
39642 33	Other fasteners, and apparel trimming, including tape fasteners (hooks and eyes, rivets and burrs, trimming, etc.)	.....	25	(X)	84.8		
39642 51	Hair curlers, except rubber and those designed for beauty parlor use	Thousand great gross.	3	(X)	15.1	4,724.2	18.5
	Needles, except hypodermic, phonograph, and styli:						
39642 65	Sewing machine (household and industrial dry-thread)	Thousands	3	*294.4	47.0	(X)	41.9
39642 69	Other needles, except hypodermic, phonograph and styli, including shoe machine, hand sewing, hand knitting, knitting machine, crocheting, darning, etc	Thousands	10				
	Pins, except jewelry:						
39642 81	Common or toilet, including dressmakers' pins	1,000 lb	5	2,849.1	10.5	1,846.4	8.0
39642 83	Hairpins, metal "bobby" type	1,000 lb	4	*4,001.4	4.8	10,308.5	8.9
39642 88	Other pins, hatpins, glasshead pins, plastic and metal hairpins other than metal "bobby" type, etc	Million gross.	10	28.3	15.2	(X)	29.6
39642 00	Needles, pins, fasteners (except slide), and similar notions, n.s.k	.....	(NA)	(X)	4.2	(X)	3.1
39640 00	Needles, pins, and fasteners, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	28.8	(X)	24.2
39640 02	Needles, pins, and fasteners, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	31.8	(X)	9.2

Footnotes are on next page.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** - Con.

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 gigits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. n.s.k. Not specified by kind. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972, product codes 39510 01, 39510 05, and 39510 06 were included with product code 39510 63.

[4]Product code 39552 41 was included with product code 39552 98.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972**

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
39521, WOOD-CASED PENCILS, CRAYONS, AND CHALK		
United States	90.6	63.1
East South Central Division:		
Tennessee	48.0	FF
39522, ARTISTS' EQUIPMENT		
United States	163.9	101.4
New England Division:		
Massachusetts	5.9	CC
Middle Atlantic Division:		
New York	28.8	27.7
New Jersey	4.0	3.4
East North Central Division:		
Illinois	6.5	CC
Pacific Division:		
California	5.0	4.2
39551, INKED RIBBONS (ALL TYPES)		
United States	246.9	150.0
Middle Atlantic Division:		
New York	20.0	22.6
New Jersey	28.7	EE
Pennsylvania	13.8	[redacted]
East North Central Division:		
Ohio	14.0	CC
39552, CARBON PAPER, STENCIL PAPER, ETC.		
United States	220.2	153.8
Middle Atlantic Division:		
New York	22.5	FF
New Jersey	5.8	EE
39552, CARBON PAPER, STENCIL PAPER, ETC.--Con.		
East North Central Division:		
Illinois	71.8	49.8
South Atlantic Division:		
Virginia	4.0	(NA)
Georgia	14.2	CC
Pacific Division:		
California	24.3	14.5
39641, ZIPPERS AND SLIDE FASTENERS		
United States	295.0	254.5
Middle Atlantic Division:		
New York	54.0	GG
South Atlantic Division:		
Georgia	75.7	FF
39642, NEEDLES, PINS, FASTENERS, AND SIMILAR NOTIONS		
United States	278.1	265.7
New England Division:		
Rhode Island	27.6	24.3
Connecticut	97.5	86.7
Middle Atlantic Division:		
New York	22.7	21.1
New Jersey	11.9	[redacted]
East North Central Division:		
Wisconsin	4.2	BB
Pacific Division:		
California	2.9	[redacted]

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
39510	Pens, mechanical pencils, and pen points	562.9	413.6	369.9	360.0	358.9	311.7	210.8	177.7
3952-	Lead pencils and art goods	268.1	248.0	230.3	221.9	180.0	174.3	133.2	107.5
39521	Wood-cased pencils, crayons, and chalk	90.6	133.2	103.4	102.6	83.1	63.1	73.6	65.3
39522	Artists' equipment	163.9	111.7	114.2	(111.7)	(89.5)	101.4	53.8	40.3
39520	Lead pencils and office and art goods, n.s.k.	13.6	(S)	(12.7)	7.6	7.4	9.8	5.8	1.9
39530	Hand stamps, stencils, and other marking devices	215.9	252.8	234.2	223.5	185.2	163.4	(NA)	(NA)
3955-	Carbon paper and inked ribbons	488.9	451.6	419.3	415.2	355.4	317.5	221.5	161.3
39551	Inked ribbons (all types)	246.9	209.5	193.3	162.4	145.5	150.0	(NA)	(NA)
39552	Carbon paper, stencil paper, etc	220.2	246.0	227.0	243.3	194.9	153.8	(NA)	(NA)
39550	Carbon paper and inked ribbons, n.s.k.	21.8	([2])	([2])	(9.5)	(15.0)	13.7	(NA)	(NA)
39610	Costume jewelry and costume novelties	781.5	710.6	653.8	602.1	474.1	441.7	338.2	256.7
39620	Feathers, plumes, and artificial flowers	160.1	106.6	102.5	101.5	135.4	101.8	86.3	59.3
39630	Buttons and parts	106.2	107.9	112.1	114.9	120.1	103.1	83.8	81.9
3964-	Needles, pins, and fasteners	633.6	545.3	456.7	471.9	510.2	553.6	381.4	315.2
39641	Zippers and slide fasteners	295.0	285.9	235.9	220.0	225.8	254.5	201.5	143.2
39642	Needles, pins, fasteners, and similar notions	278.1	241.1	212.6	227.4	265.5	265.7	153.8	155.7
39640	Needles, pins, and fasteners, n.s.k.	60.6	(18.3)	(8.2)	(24.5)	(18.9)	33.4	26.1	16.3

(NA) Not available. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

[2]Withheld because estimated value derived is a negative figure. This is a consequence of using difference method of estimation and of improved establishment reporting that resulted in changing classification of its shipments from the n.s.k. code in the 1972 Census of Manufactures to specified 5-digit product classes in current year. 4-digit total shown for this group of product classes is considered to be best estimate of totals, even though it is smaller than sum of individual 5-digit product class values.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	1977, delivered cost (million dollars)
	INDUSTRY 3951, PENS AND MECHANICAL PENCILS	
	Materials, parts, containers, and supplies	214.1
265001	Paperboard boxes and containers	18.8
307903	Plastics products consumed in form of sheets, rods, tubes, and other shapes	20.3
349940	Fabricated metal products	37.1
395101	Parts for pens and mechanical pencils	80.5
970099	All other materials and components, parts, containers, and supplies	40.5
971000	Materials, parts, containers, and supplies, n.s.k.[1]	16.9
	INDUSTRY 3952, LEAD PENCILS AND ART GOODS	
	INDUSTRY 3953, MARKING DEVICES	
	(Materials data for these industries were not collected)	

1977 material code	Material	Unit of measure	1977 Quantity[2]	1977 Delivered cost (million dollars)
	INDUSTRY 3955, CARBON PAPER AND INKED RIBBONS			
	Materials, parts, containers, and supplies	.....	(X)	190.8
224111	Woven narrow fabric (less than 12-inch width)	.....	(X)	17.9
262106	Purchased (market) paper	Short tons.....	*101.4	71.0
265001	Paperboard boxes and containers	.....	(X)	6.6
289501	Carbon black	Million pounds.	(S)	6.2
289300	Printing ink	Million pounds.	(S)	7.6
970099	All other materials and components, parts, containers, and supplies	.....	(X)	53.7
971000	Materials, parts, containers, and supplies, n.s.k.[1]	.....	(X)	27.8
	INDUSTRY 3961, COSTUME JEWELRY			
	INDUSTRY 3962, ARTIFICIAL FLOWERS			
	(Materials data for these industries were not collected)			

1977 material code	Material	Unit of measure	1977 Quantity[2]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3963, BUTTONS					
	Materials, components, parts, containers, and supplies	.....	(X)	35.9	(X)	36.7
	Mill shapes and forms:					
331001	Carbon steel	1,000 s. tons..	1.9	.7	1.8	.7
331020	Alloy steel	1,000 s. tons..	(S)	.2	(NA)	.7
331031	Stainless steel					
335001	Aluminum and aluminum-base alloy	Million lb.....	.4	.4	(D)	(3)
335105	Copper and copper-base alloy	Million lb.....	1.0	.9	8.2	3.0
220101	Cotton and manmade fiber fabrics, broadwoven and narrow woven, including tape for zippers and other fasteners	.....	(X)	(4)	(X)	(3)
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	Million lb.....	(S)	8.1	(X)	(3)
346901	Metal stampings	.....	(X)	.6	(X)	(3)
396401	Needles, pins, fasteners, and similar materials purchased for further manufacture or assembly	.....	(X)	(4)	(X)	(3)
970099	All other materials and components, parts, containers, and supplies	.....	(X)	4 14.8	(X)	3 17.7
971000	Materials, components, parts, containers, and supplies, n.s.k.[1]	.....	(X)	10.2	(X)	14.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972**—Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977		1972	
			Quantity[2]	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
	INDUSTRY 3964, NEEDLES, PINS, AND FASTENERS					
	Materials, components, parts, containers, and supplies	.....	(X)	272.2	(X)	206.9
	Mill shapes and forms:					
331001	Carbon steel	1,000 s. tons..	22.9	15.8	36.3	11.5
331020	Alloy steel		(S)	2.3	1.6	1.5
331031	Stainless steel	1,000 s. tons..	.8	2.5	1.6	3.5
335001	Aluminum and aluminum-base alloy	Million lb.....	8.3	8.4	13.7	8.1
335105	Copper and copper-base alloy	Million lb.....	32.2	35.1	31.5	23.4
220101	Cotton and manmade fiber fabrics, broadwoven and narrow woven, including tape for zippers and other fasteners	.....	(X)	27.3	(X)	[5]44.0
282104	Plastics resins consumed in the form of granules, pellets, powder, liquid, etc., but excluding sheets, rods, tubes and shapes	Millinn lb.....	16.1	5.6	(X)	([6])
346901	Metal stampings	.....	(X)	5.3	(X)	([6])
396401	Needles, pins, fasteners, and similar materials purchased for further manufacture or assembly	.....	(X)	4.3	(X)	[5]18.0
970099	All other materials and components, parts, containers, and supplies	.....	(X)	109.0	(X)	[6]59.1
971000	Materials, components, parts, containers, and supplies, n.s.k.[1]	.....	(X)	56.6	(X)	37.8

Note: Prior to 1977, materials consumed were not collected for industries 3951 and 3955.

(D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.s.k. Not specified by kind.
(S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[2]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]For 1972, material codes 220101, 282104, 335001, 346901, and 396401 were included with material code 970099 for industry 3963.

[4]For 1977, material codes 220101 and 396401 were included with material code 970099 for industry 3963.

[5]From 1972 Census of Manufactures Supplemental Inquiry: Consumption of Materials, Parts, Containers, and Supplies During 1972 (Form MA-131).

[6]For 1972, data for material codes 282104 and 346901 were included with material code 970099.

Miscellaneous Manufactures

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DESCRIPTION OF INDUSTRIES

MISCELLANEOUS MANUFACTURES

This report shows 1977 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC Code and Title

3991 Brooms and Brushes
3993 Signs and Advertising Displays
3995 Burial Caskets
3996 Hard Surface Floor Coverings
3999 Manufacturing Industries, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments, but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1a-5a) with product statistics (table 6a) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and also the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Small single-unit companies with up to 20 employees (the cutoff varied by industry), were excluded from the mail portion of the census. For these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated), data on payrolls and receipts were obtained from administrative records of other government agencies. The remaining statistics were developed from industry averages.

Establishment data were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification Manual and its 1977 supplement.

INDUSTRY 3991, BROOMS AND BRUSHES

This industry comprises establishments primarily engaged in the manufacture of household, industrial, and street sweeping brooms; and brushes.

The total value of shipments for establishments classified in the Brooms and Brushes industry amounted to $673 million in 1977, an increase of 54 percent from 1972. The value of shipments of products classified as primary to the industry was $621 million, an increase of 58 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $354 million in 1977, was 50 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 16.5 thousand employees, a decrease of 6 percent from 1972. The leading States in employment were Ohio, Massachusetts, New York, and Illinois, accounting for approximately 40 percent of the industry's 1977 employment. Data for Ohio and New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3993, SIGNS AND ADVERTISING DISPLAYS

This industry comprises establishments primarily engaged in the manufacture of electrical, mechanical, cutout, or plate signs and advertising displays, including neon signs and advertising novelties. Sign painting shops doing business on a custom basis are classified in industry 7399. Establishments primarily engaged in the manufacture of electric signal equipment are classified in industry 3662, and lighting fixtures in industry 3642.

The total value of shipments for establishments classified in the Signs and Advertising Displays industry amounted to $1,739 million in 1977, an increase of 45 percent from 1972. The value of shipments of products classified as primary to the industry was $1,607 million, an increase of 48 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,061 million in 1977, was 42 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 49.7 thousand employees, approximately the same as in 1972. The leading States in employment were New York, Illinois, California, and Ohio, accounting for approximately 40 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 14 percent of total value of shipments.

INDUSTRY 3995, BURIAL CASKETS

This industry comprises establishments primarily engaged in the manufacture of caskets, coffins, burial cases, and coffin shipping cases, whether of wood or other material except concrete (industry 3272). Establishments primarily engaged in producing other goods for use by morticians are classified on the basis of the product such as burial garments in major group 23.

The total value of shipments for establishments classified in the Burial Caskets industry amounted to $506 million in 1977, an increase of 30 percent from 1972. The value of shipments of products classified as primary to the industry was $495 million, an increase of 28 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $264 million in 1977, was 26 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 12.0 thousand employees, a decrease of 19 percent from 1972. The leading States in employment were Indiana, Pennsylvania, Tennessee, and Illinois, accounting for approximately 50 percent of the industry's 1977 employment.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 5 percent of total value of shipments.

INDUSTRY 3996, HARD SURFACE FLOOR COVERINGS

This industry comprises establishments primarily engaged in the manufacture of linoleum, asphalted-felt-base, and other hard surface floor coverings, not elsewhere classified. Establishments primarily engaged in the manufacture of rubber floor coverings are classified in industry 3069, and cork floor and wall tile in industry 2499.

The total value of shipments for establishments classified in the Hard Surface Floor Coverings industry amounted to $607 million in 1977, an increase of 77 percent from 1972. The value of shipments of products classified as primary to the industry was $561 million, an increase of 87 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $321 million in 1977, was 52 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 6.4 thousand employees, an increase of 10 percent from 1972. The leading States in employment were Pennsylvania and New Jersey, accounting for approximately 80 percent of the industry's 1977 employment. Data for New Jersey have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided.

Establishments of single-unit companies in this industry with up to 20 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 1 percent of total value of shipments.

INDUSTRY 3999, MANUFACTURING INDUSTRIES, N.E.C.

This industry comprises establishments primarily engaged in the manufacture of miscellaneous fabricated products, including beauty shop and barber shop equipment; hairwork; tobacco pipes and cigarette holders; coin-operated amusement machines; matches; candles; lampshades; dressed and dyed furs; umbrellas; parasols and canes; and other articles, not elsewhere classified.

The total value of shipments for establishments classified in the Manufacturing Industries, N.E.C. industry amounted to $2,662 million in 1977, an increase of 73 percent from 1972. The value of shipments of products classified as primary to the industry was $2,589 million, an increase of 78 percent from 1972. (See the Introduction for a discussion of the difference between value of shipments for the industry and value of product shipments.) The change reflected a general trend in the shipments of most of the products of the industry. Value added by manufacture, at $1,485 million in 1977, was 65 percent above value added in 1972. All dollar figures shown in this report are in current dollars; they are therefore not adjusted for changes in price levels.

In 1977 the industry had 67.3 thousand employees, an increase of 3 percent from 1972. The leading States in employment were Illinois, New York, California, and Pennsylvania, accounting for approximately 50 percent of the industry's 1977 employment. Data for New York have been withheld to avoid disclosing operations of individual companies. However, establishment counts and employment size ranges are provided. These same States were in the forefront for 1972 when they accounted for approximately 50 percent of the industry's employment although there has been some shift in the relative importance of individual States.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 16 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments: Total (no.)	All establishments: With 20 employees or more (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets: New capital expenditures (million dollars)	Expenditures and assets: Gross value of fixed assets (million dollars)	End-of-year inventories (million dollars)	Ratios: Specialization (percent)	Ratios: Coverage (percent)
INDUSTRY 3991, BROOMS AND BRUSHES																
1977 Census--	391	409	153	16.5	163.8	12.7	24.0	101.1	353.6	326.7	673.1	15.7	(NA)	129.9	91	89
1976 ASM----	(NA)	(NA)	(NA)	15.6	138.9	11.8	21.8	86.8	303.1	257.0	563.6	12.9	165.0	110.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	14.7	122.3	11.2	21.4	77.5	273.3	227.3	500.0	20.1	148.1	116.8	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	16.9	129.9	13.1	24.0	84.7	278.1	253.2	521.2	12.9	142.3	130.0	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	18.1	127.2	14.7	27.7	85.2	276.9	227.3	488.9	19.0	154.7	115.6	(NA)	(NA)
1972 Census--	430	450	166	17.5	118.5	14.2	26.8	79.5	235.5	204.9	438.3	13.0	140.8	98.5	92	94
1971 ASM----	(NA)	(NA)	(NA)	16.8	101.7	13.2	24.8	66.8	212.0	178.0	385.2	11.2	121.3	85.4	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	18.3	101.2	14.7	27.7	69.2	211.9	196.8	408.6	18.4	115.2	79.4	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	18.9	99.9	15.5	27.5	69.7	209.5	192.5	406.4	11.9	107.8	71.2	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	18.3	93.6	15.1	27.3	65.8	212.8	184.5	393.7	6.6	99.4	74.6	(NA)	(NA)
1967 Census--	516	533	169	17.3	88.3	14.1	26.8	61.3	192.9	177.0	371.8	10.7	102.8	69.5	90	92
1966 ASM----	(NA)	(NA)	(NA)	17.0	85.3	13.7	27.7	55.5	195.1	185.4	374.4	9.2	(NA)	82.2	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	17.3	84.2	14.2	27.5	54.1	192.7	181.5	372.3	6.2	(NA)	76.9	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	17.2	81.7	13.7	26.9	51.9	181.7	169.5	350.6	7.0	(NA)	69.2	(NA)	(NA)
1963 Census--	528	643	167	16.6	73.6	13.4	25.8	49.5	167.9	153.6	321.1	4.4	81.4	66.4	89	93
INDUSTRY 3993, SIGNS AND ADVERTISING DISPLAYS																
1977 Census--	3 372	3 468	627	49.7	566.6	36.8	69.2	343.1	1 060.9	689.2	1 738.7	43.0	(NA)	210.8	98	97
1976 ASM----	(NA)	(NA)	(NA)	40.9	449.6	31.0	59.0	281.2	790.6	507.6	1 295.8	61.7	343.1	141.1	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	40.7	417.4	30.7	57.5	263.1	738.0	471.6	1 212.8	19.7	293.3	129.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	42.9	412.0	32.3	62.4	263.9	842.6	468.2	1 310.1	25.3	266.3	145.3	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	49.6	445.4	36.6	68.6	279.1	872.8	395.8	1 264.4	25.0	287.3	140.7	(NA)	(NA)
1972 Census--	3 221	3 287	637	49.8	415.9	37.5	68.3	261.6	747.7	460.2	1 198.1	30.6	273.6	129.5	98	97
1971 ASM----	(NA)	(NA)	(NA)	46.0	339.3	34.1	62.7	215.8	606.0	369.4	971.8	16.3	203.6	106.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	48.9	347.9	36.3	69.7	219.1	598.5	386.3	987.0	28.5	200.3	97.5	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	52.7	356.9	41.3	78.7	235.7	617.5	401.9	1 022.6	18.7	231.2	107.1	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	47.7	315.8	36.4	70.7	204.9	544.5	327.8	870.1	25.8	213.5	84.3	(NA)	(NA)
1967 Census--	3 159	3 188	623	47.8	309.3	36.8	70.6	198.8	546.6	330.8	875.1	23.0	196.9	87.3	97	95
1966 ASM----	(NA)	(NA)	(NA)	48.3	294.2	40.6	76.3	202.3	495.9	359.4	818.6	20.4	(NA)	91.5	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	46.2	269.8	39.1	71.4	179.4	444.4	300.1	742.9	19.4	(NA)	68.7	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	43.2	259.7	32.8	65.3	171.2	455.7	263.8	713.1	12.7	145.2	72.5	(NA)	(NA)
1963 Census--	3 165	3 206	570	43.5	242.6	33.1	64.8	163.5	407.5	243.8	646.8	15.0	129.0	69.1	96	95
INDUSTRY 3995, BURIAL CASKETS																
1977 Census--	376	406	133	12.0	129.7	9.3	17.8	79.7	264.2	244.1	505.9	16.3	(NA)	81.8	99	98
1976 ASM----	(NA)	(NA)	(NA)	12.2	121.4	9.5	17.7	72.9	244.0	215.8	458.6	11.6	120.6	80.7	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	12.9	119.2	10.1	18.6	72.9	239.6	212.7	453.0	7.3	116.9	78.2	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	14.5	123.2	11.5	21.8	77.8	223.6	228.8	449.6	10.5	116.3	89.1	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	14.0	111.1	11.3	22.0	72.5	214.7	204.4	415.5	10.9	126.7	65.2	(NA)	(NA)
1972 Census--	474	515	189	14.8	109.3	11.8	22.6	72.0	210.3	183.7	391.9	8.8	120.9	57.9	99	99
1971 ASM----	(NA)	(NA)	(NA)	16.2	108.8	12.4	24.1	71.3	199.7	183.7	377.2	9.7	117.7	68.3	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	16.7	106.8	13.1	27.2	72.2	185.3	168.8	355.0	9.7	108.9	56.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	16.3	103.9	13.2	27.0	72.1	178.5	174.8	351.9	6.8	84.1	58.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	16.3	96.2	13.3	27.2	65.3	173.1	157.2	329.9	4.3	86.0	53.9	(NA)	(NA)
1967 Census--	527	563	211	16.1	90.9	13.0	26.4	60.6	161.7	144.2	306.1	4.2	85.7	51.4	95	98
1966 ASM----	(NA)	(NA)	(NA)	17.0	90.0	12.6	25.8	57.9	182.4	140.2	319.1	7.7	(NA)	50.3	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	17.0	89.7	13.4	27.4	59.1	173.0	128.7	302.6	6.7	(NA)	44.5	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	16.8	85.9	12.6	26.6	56.0	150.4	131.0	281.9	6.8	(NA)	47.9	(NA)	(NA)
1963 Census--	581	617	224	17.3	86.2	13.5	27.5	58.4	158.4	132.7	290.0	5.5	(NA)	46.4	95	98
INDUSTRY 3996, HARD SURFACE FLOOR COVERINGS																
1977 Census--	20	21	13	6.4	93.5	5.0	10.4	68.6	321.3	291.9	607.2	16.9	(NA)	84.9	92	98
1976 ASM----	(NA)	(NA)	(NA)	5.8	75.4	4.4	9.3	53.9	270.1	244.6	504.8	24.6	218.3	69.8	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	5.4	63.1	3.9	8.2	44.2	220.6	202.5	427.0	7.3	201.5	63.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	5.1	57.9	4.0	8.4	43.5	171.3	196.9	361.2	18.3	191.4	62.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	5.3	57.9	4.1	8.8	43.8	214.7	137.7	352.9	20.0	178.4	50.0	(NA)	(NA)
1972 Census--	18	20	11	5.8	59.4	4.6	9.7	44.7	212.0	135.2	342.3	14.0	175.4	49.7	88	99
1971 ASM----	(NA)	(NA)	(NA)	5.2	48.6	4.1	8.6	36.2	159.1	100.5	258.8	20.7	169.5	41.7	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	5.4	46.8	4.2	9.0	35.0	139.5	97.9	232.6	14.5	151.0	45.8	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	5.5	45.6	4.4	9.1	34.4	132.7	101.7	235.1	10.5	155.1	41.4	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	5.8	43.9	4.6	9.4	33.1	140.2	90.6	230.3	7.7	146.2	41.8	(NA)	(NA)
1967 Census--	18	20	12	6.0	43.5	4.9	10.1	33.2	133.4	90.4	221.7	20.6	144.3	41.8	86	97
1966 ASM----	(NA)	(NA)	(NA)	6.3	44.8	5.1	10.8	34.4	135.2	100.8	230.3	9.3	(NA)	39.9	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	6.2	42.3	5.0	10.4	32.4	139.2	89.2	227.8	10.0	(NA)	32.4	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	6.3	42.3	5.1	10.7	32.3	132.5	86.4	217.7	6.8	115.4	31.0	(NA)	(NA)
1963 Census--	13	16	13	6.2	39.0	5.0	10.1	29.5	118.8	80.7	204.1	4.4	110.8	29.9	82	88

See footnotes at end of table.

Table 1a. **Historical Statistics for the Industry: 1977 and Earlier Years**—Con.

[For explanation of terms, see appendix A]

Year[1]	Companies[2] (no.)	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	Expenditures and assets		End-of-year inventories (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				New capital expenditures (million dollars)	Gross value of fixed assets (million dollars)		Specialization (percent)	Coverage (percent)
	INDUSTRY 3999, MANUFACTURING INDUSTRIES, N.E.C.															
1977 Census--	3 923	3 976	614	67.3	669.1	52.0	92.3	408.5	1 484.7	1 208.1	2 662.0	81.3	(NA)	481.1	91	90
1976 ASM----	(NA)	(NA)	(NA)	55.0	553.3	42.2	82.9	342.1	1 229.0	1 041.0	2 276.6	93.6	536.1	434.4	(NA)	(NA)
1975 ASM----	(NA)	(NA)	(NA)	56.9	519.4	42.3	84.9	312.3	1 099.7	934.4	2 050.6	42.0	462.1	402.0	(NA)	(NA)
1974 ASM----	(NA)	(NA)	(NA)	63.6	469.1	45.9	89.2	303.5	1 019.2	791.4	1 803.6	61.6	422.2	407.4	(NA)	(NA)
1973 ASM----	(NA)	(NA)	(NA)	64.9	464.6	51.4	94.5	304.2	926.4	684.9	1 609.4	35.5	398.9	301.5	(NA)	(NA)
1972 Census--	3 309	3 367	614	65.1	430.5	51.4	94.5	280.1	897.2	651.8	1 534.7	40.2	356.5	261.0	91	91
1971 ASM----	(NA)	(NA)	(NA)	56.9	344.4	44.3	82.1	230.0	694.0	487.1	1 176.2	30.8	326.0	193.9	(NA)	(NA)
1970 ASM----	(NA)	(NA)	(NA)	56.6	334.4	45.0	83.9	221.2	651.0	457.6	1 102.1	24.7	(S)	183.1	(NA)	(NA)
1969 ASM----	(NA)	(NA)	(NA)	59.8	329.6	49.0	91.7	227.4	606.6	456.8	1 061.3	30.6	286.6	169.6	(NA)	(NA)
1968 ASM----	(NA)	(NA)	(NA)	57.3	308.9	47.6	89.3	215.4	585.3	424.6	996.5	17.4	261.6	159.1	(NA)	(NA)
1967 Census--	2 165	2 211	586	56.7	284.4	46.6	88.1	197.2	540.6	408.7	943.3	23.5	255.2	139.3	94	90
1967 Census--	2 165	2 211	586	56.7	284.4	46.6	88.1	197.2	540.6	408.7	943.3	23.5	255.2	139.3	94	90
1966 ASM----	(NA)	(NA)	(NA)	46.9	223.6	38.2	75.0	158.7	408.8	352.8	757.0	17.1	(NA)	126.8	(NA)	(NA)
1965 ASM----	(NA)	(NA)	(NA)	48.9	230.3	40.1	79.0	165.1	424.8	350.4	773.2	17.1	(NA)	101.1	(NA)	(NA)
1964 ASM----	(NA)	(NA)	(NA)	48.0	221.6	39.0	79.2	158.0	404.1	325.5	728.0	10.7	(NA)	97.4	(NA)	(NA)
1963 Census--	(NA)	2 108	486	46.7	207.3	38.5	74.6	150.0	384.0	305.8	684.2	13.5	(NA)	98.6	(NA)	(NA)
1963 Census--	(NA)	(NA)	(NA)	46.7	207.3	38.5	74.6	150.0	384.0	305.8	684.2	13.5	(NA)	98.6	(NA)	(NA)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. r Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1963, see 1963 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[4]Data for 1967 and 1963 were derived from Table 8, General Statistics for Establishments by Industry Specialization and Primary Product Class Specialization, in vol. II of the 1967 and 1963 Censuses of Manufactures. Separate data for other years are not available.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus these estimates may be of limited reliability.

[6]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

[7]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[8]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[9]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[10]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3991, BROOMS AND BRUSHES											
1977 Census--	9 909	(NA)	76	1 894	4.21	48	72	(NA)	21 400	46	14.72
1976 ASM----	8 903	10 576	75	1 847	3.98	45	70	29	19 429	45	13.90
1975 ASM----	8 319	10 074	76	1 910	3.62	45	69	29	18 591	44	12.77
1974 ASM----	7 686	8 420	77	1 832	3.52	48	73	27	16 455	46	11.58
1973 ASM----	7 027	8 546	81	1 884	3.07	46	72	31	15 298	45	9.99
1972 Census--	6 771	8 045	81	1 887	2.96	46	73	32	13 457	50	8.78
1971 ASM----	6 053	7 220	78	1 878	2.69	46	72	31	12 619	47	8.54
1970 ASM----	5 530	6 295	80	1 884	2.49	48	72	28	11 579	47	7.64
1969 ASM----	5 285	5 703	82	1 774	2.53	47	71	26	11 084	47	7.61
1968 ASM----	5 114	5 431	82	1 807	2.41	46	70	25	11 628	43	7.79
1967 Census--	5 104	5 942	81	1 900	2.28	47	71	27	11 150	45	7.19
1966 ASM----	5 017	(NA)	80	2 021	2.00	49	72	(NA)	11 476	43	7.04
1965 ASM----	4 867	(NA)	82	1 936	1.96	48	71	(NA)	11 138	43	7.00
1964 ASM----	4 750	(NA)	79	1 963	1.92	48	71	(NA)	10 563	44	6.75
1963 Census--	4 433	4 903	80	1 925	1.91	47	70	25	10 114	43	6.50
INDUSTRY 3993, SIGNS AND ADVERTISING DISPLAYS											
1977 Census--	11 391	(NA)	73	1 880	4.95	39	72	(NA)	21 328	53	15.33
1976 ASM----	10 992	8 388	75	1 903	4.76	39	73	26	19 330	56	13.40
1975 ASM----	10 255	7 206	75	1 872	4.57	38	73	24	18 132	56	12.83
1974 ASM----	9 603	6 207	75	1 931	4.22	35	67	20	19 641	48	13.50
1973 ASM----	8 979	5 792	73	1 874	4.06	31	66	22	17 596	51	12.72
1972 Census--	8 351	5 493	75	1 821	3.83	38	73	22	15 014	55	10.94
1971 ASM----	7 376	4 426	74	1 838	3.44	38	72	20	13 173	55	9.66
1970 ASM----	7 114	4 096	74	1 920	3.14	39	74	20	12 239	58	8.58
1969 ASM----	6 772	4 387	78	1 905	2.99	39	74	22	11 717	57	7.84
1968 ASM----	6 620	4 475	76	1 942	2.89	37	73	24	11 415	57	7.70
1967 Census--	6 470	4 119	76	1 918	2.81	37	73	22	11 435	56	7.74
1966 ASM----	6 091	(NA)	84	1 879	2.65	43	79	(NA)	10 267	59	6.49
1965 ASM----	5 839	(NA)	84	1 826	2.51	40	76	(NA)	9 619	60	6.22
1964 ASM----	6 011	3 361	75	1 990	2.62	36	73	20	10 548	56	6.97
1963 Census--	5 577	2 965	76	1 957	2.52	37	75	19	9 367	59	6.28
INDUSTRY 3995, BURIAL CASKETS											
1977 Census--	10 795	(NA)	77	1 907	4.48	48	73	(NA)	21 999	49	14.87
1976 ASM----	9 950	9 885	77	1 863	4.11	47	73	26	20 000	49	13.78
1975 ASM----	9 240	9 062	78	1 841	3.91	46	73	25	18 573	49	12.88
1974 ASM----	8 496	8 020	79	1 895	3.56	50	78	25	15 420	55	10.25
1973 ASM----	7 935	9 050	80	1 946	3.29	49	75	30	15 335	51	9.75
1972 Census--	7 385	8 168	79	1 915	3.18	46	74	30	14 209	51	9.30
1971 ASM----	6 716	7 265	76	1 943	2.95	48	77	31	12 327	54	8.28
1970 ASM----	6 395	6 520	78	2 076	2.65	47	77	30	11 095	57	6.81
1969 ASM----	6 374	5 159	80	2 045	2.67	49	79	23	10 950	58	6.61
1968 ASM----	5 901	5 276	81	2 045	2.40	47	76	26	10 619	55	6.36
1967 Census--	5 645	5 322	80	2 030	2.29	47	76	27	10 043	56	6.12
1966 ASM----	5 294	(NA)	74	2 047	2.24	43	72	(NA)	10 729	49	7.06
1965 ASM----	5 276	(NA)	78	2 044	2.15	42	72	(NA)	10 176	51	6.31
1964 ASM----	5 113	(NA)	75	2 111	2.10	46	76	(NA)	8 952	57	5.65
1963 Census--	4 982	(NA)	78	2 037	2.12	45	75	(NA)	9 156	54	5.76
INDUSTRY 3996, HARD SURFACE FLOOR COVERINGS											
1977 Census--	14 557	(NA)	77	2 091	6.62	48	63	(NA)	50 027	29	30.99
1976 ASM----	13 000	37 637	75	2 113	5.79	48	63	43	46 568	27	29.04
1975 ASM----	11 685	37 314	72	2 102	5.39	47	62	47	40 851	28	26.90
1974 ASM----	11 352	37 529	78	2 100	5.17	54	70	52	33 588	33	20.39
1973 ASM----	10 924	33 660	77	2 146	4.97	39	55	50	40 509	26	24.39
1972 Census--	10 241	30 241	79	2 108	4.60	39	56	51	36 551	28	21.85
1971 ASM----	9 346	32 596	78	2 097	4.20	38	57	65	30 596	30	18.50
1970 ASM----	8 666	27 962	77	2 142	3.88	42	62	64	25 833	33	15.50
1969 ASM----	8 290	28 200	80	2 068	3.78	43	62	65	24 127	34	14.58
1968 ASM----	7 568	25 206	79	2 043	3.52	39	58	63	24 172	31	14.91
1967 Census--	7 250	24 050	81	2 061	3.28	40	60	65	22 233	32	13.20
1966 ASM----	7 111	(NA)	80	2 117	3.18	43	63	(NA)	21 460	33	12.51
1965 ASM----	6 822	(NA)	80	2 080	3.11	39	57	(NA)	22 451	30	13.38
1964 ASM----	6 714	18 317	80	2 098	3.01	39	59	53	21 031	31	12.38
1963 Census--	6 290	17 870	80	2 020	2.92	39	58	54	19 161	32	11.76

See footnotes at end of table.

Table 1b. Selected Operating Ratios for the Industry: 1977 and Earlier Years—Con.

[For explanation of terms, see appendix A]

Year	Payroll per employee (dollars)	Assets per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Assets as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 3999, MANUFACTURING INDUSTRIES, N.E.C.										
1977 Census--	9 941	(NA)	77	1 775	4.42	45	70	(NA)	22 061	45	16.08
1976 ASM----	10 060	9 747	76	1 964	4.12	45	70	23	22 345	45	14.82
1975 ASM----	9 128	8 121	74	2 007	3.67	45	70	22	19 326	47	12.95
1974 ASM----	7 375	6 638	72	1 943	3.40	43	69	23	16 025	46	11.42
1973 ASM----	7 158	6 146	79	1 838	3.21	42	71	24	14 274	50	9.80
1972 Census--	7 011	(S)	83	1 838	2.96	42	70	(S)	14 612	47	8.49
1971 ASM----	6 052	5 729	77	1 853	2.80	41	70	27	12 196	49	8.45
1970 ASM----	5 908	(S)	79	1 864	2.63	41	71	(S)	11 501	51	7.75
1969 ASM----	5 511	4 792	81	1 871	2.47	43	74	27	10 143	54	6.61
1968 ASM----	5 390	4 565	83	1 876	2.41	42	73	26	10 214	52	6.55
1967 Census--	5 015	(NA)	82	1 890	2.23	43	73	(NA)	9 534	52	6.13
1967 Census--	5 015	4 500	82	1 890	2.23	43	73	27	9 534	52	6.13
1966 ASM----	4 767	(NA)	81	1 963	2.11	46	76	(NA)	8 716	54	5.45
1965 ASM----	4 709	(NA)	82	1 970	2.08	45	75	(NA)	8 687	54	5.37
1964 ASM----	4 616	(NA)	81	2 030	1.99	44	75	(NA)	8 418	54	5.10
1963 Census--	4 438	(NA)	82	1 937	2.01	44	74	(NA)	8 222	53	5.14
1963 Census--	4 438	(NA)	82	1 937	2.01	44	74	(NA)	8 222	53	5.14

Note: For qualifications to data, see footnotes on table 1a.
- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers							
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
INDUSTRY 3991, BROOMS AND BRUSHES													
United States	-	**409**	**153**	**16.5**	**163.8**	**12.7**	**24.0**	**101.1**	**353.6**	**326.7**	**673.1**	**15.7**	**17.5**	**235.5**
New England Division:														
Maine	-	1	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Hampshire	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	-	20	12	1.8	18.4	1.5	2.9	12.8	39.8	28.1	66.2	2.4	2.3	39.6
Middle Atlantic Division:														
New York	E1	44	18	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey	-	21	8	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	-	22	10	0.8	8.1	0.5	0.9	3.5	12.9	13.2	25.5	0.4	0.6	7.1
East North Central Division:														
Ohio	-	27	16	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Illinois	-	28	12	1.2	12.3	1.0	1.9	8.7	23.8	20.2	43.9	1.5	1.4	19.3
Michigan	-	11	4	0.7	9.1	0.5	0.9	4.9	18.2	15.7	34.8	(D)	0.2	3.0
Wisconsin	-	14	7	0.9	9.5	0.6	1.4	5.0	22.5	26.0	48.1	(D)	(NA)	(D)
West North Central Division:														
Minnesota	-	3	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Iowa	-	7	2	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nebraska	E1	6	2	0.2	1.2	0.2	0.3	0.9	2.4	2.1	4.4	(D)	(NA)	(D)
Kansas	-	3	1	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
South Atlantic Division:														
Maryland	-	7	5	0.8	7.8	0.6	1.3	5.2	16.0	21.4	35.8	0.4	0.9	9.9
North Carolina	-	18	2	0.4	3.5	0.3	0.7	2.5	9.4	7.2	15.7	(D)	0.3	5.4
Georgia	-	9	4	0.3	2.0	0.2	0.4	1.3	5.3	5.5	10.7	0.2	0.3	3.7
Florida	-	17	6	0.2	1.8	0.2	0.4	1.1	3.8	4.3	8.1	(D)	0.2	2.1
East South Central Division:														
Tennessee	-	9	4	0.3	1.9	0.2	0.4	1.3	5.8	6.0	11.6	0.2	0.6	7.1
Alabama	-	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
West South Central Division:														
Louisiana	-	9	2	0.3	2.1	0.2	0.4	1.6	7.1	4.7	11.6	(D)	(NA)	(NA)
Texas	E1	25	4	0.3	2.2	0.2	0.4	1.5	3.7	5.4	9.2	0.2	0.4	2.6
Pacific Division:														
Oregon	-	4	1	0.2	1.9	0.2	0.3	1.1	4.1	2.3	6.2	(D)	(NA)	(D)
California	-	42	11	0.8	7.9	0.6	1.0	4.2	14.5	14.6	29.1	0.9	(NA)	(D)
INDUSTRY 3993, SIGNS AND ADVERTISING DISPLAYS														
United States	**E1**	**3 468**	**627**	**49.7**	**566.6**	**36.8**	**69.2**	**343.1**	**1 060.9**	**689.2**	**1 738.7**	**43.0**	**49.8**	**747.7**
New England Division:														
Massachusetts	E1	90	16	1.4	15.3	1.0	1.9	9.3	29.2	17.4	46.3	0.7	1.4	20.7
Rhode Island	-	32	13	0.8	6.4	0.7	1.2	4.4	12.1	9.0	20.9	0.2	0.7	8.0
Connecticut	E1	50	6	0.5	5.1	0.4	0.6	2.8	10.8	9.1	19.7	(D)	0.7	9.5
Middle Atlantic Division:														
New York	E2	395	85	6.1	68.4	4.7	8.9	42.8	123.7	85.1	208.7	5.0	6.9	104.7
New Jersey	E1	146	41	2.7	29.7	2.0	3.7	18.6	56.7	41.5	97.9	2.6	1.9	30.2
Pennsylvania	E1	163	25	1.9	23.0	1.4	2.6	13.8	39.0	25.6	65.1	1.5	2.0	31.8
East North Central Division:														
Ohio	E1	173	44	3.2	35.4	2.4	4.6	22.3	66.0	44.4	109.9	2.3	(NA)	(D)
Indiana	E1	74	10	0.8	9.1	0.6	1.1	5.8	17.1	14.7	30.7	(D)	(NA)	(D)
Illinois	-	206	60	5.1	62.1	3.7	7.3	36.1	110.8	70.8	180.9	3.8	5.3	83.2
Michigan	-	124	19	1.6	24.1	1.2	2.2	13.7	43.6	28.7	70.5	(D)	1.4	26.1
Wisconsin	-	91	19	1.7	19.2	1.3	2.5	11.2	34.7	28.1	62.8	1.6	2.0	34.5
West North Central Division:														
Minnesota	-	61	12	1.0	11.3	0.8	1.5	7.3	23.6	13.8	37.1	1.5	(NA)	(D)
Iowa	-	41	5	0.7	8.4	0.4	0.8	4.6	23.9	19.5	43.0	(D)	(NA)	(D)
Missouri	E1	76	19	1.4	16.0	1.1	2.0	10.0	24.2	19.5	44.4	(D)	1.7	22.5
Nebraska	E1	25	4	0.2	2.1	0.1	0.3	1.3	4.1	2.1	6.1	0.1	0.2	2.6
Kansas	-	34	6	0.5	5.6	0.4	0.7	3.1	12.1	5.4	17.3	0.3	(NA)	(D)
South Atlantic Division:														
Maryland	E2	43	11	0.7	7.0	0.5	1.0	4.6	12.5	7.5	19.9	0.3	0.6	7.3
Virginia	E1	46	7	0.7	6.7	0.5	0.9	4.4	11.4	7.8	19.0	(D)	0.7	9.4
North Carolina	E2	63	6	0.6	5.4	0.4	0.8	3.2	9.4	6.5	15.8	0.3	0.5	6.4
South Carolina	E1	33	7	0.5	4.9	0.4	0.7	3.0	8.8	5.4	14.3	(D)	(NA)	(D)
Georgia	E2	68	7	0.6	5.4	0.4	0.8	3.4	10.6	8.7	18.8	0.3	0.5	7.4
Florida	E1	161	14	1.4	15.3	1.1	2.0	9.8	29.2	20.7	49.4	2.1	1.1	14.2
East South Central Division:														
Kentucky	E4	38	7	0.4	4.5	0.3	0.6	2.6	7.8	5.5	13.3	0.3	0.6	7.1
Tennessee	-	87	19	2.2	21.3	1.5	2.8	11.1	41.9	32.8	74.3	2.1	2.1	32 0
Alabama	E4	36	5	0.6	5.8	0.5	0.9	3.6	12.7	12.7	24.8	1.1	0.5	7.7
West South Central Division:														
Arkansas	-	29	4	0.4	3.5	0.3	0.5	2.0	7.3	5.1	12.2	0.1	0.2	3 6
Louisiana	E4	33	4	0.3	2.8	0.2	0.4	1.8	5.1	2.6	7.6	(D)	0.3	4.0
Oklahoma	E1	52	5	0.3	3.8	0.2	0.5	2.4	8.3	3.5	11.7	0.9	0.5	6.5
Texas	E2	224	37	2.6	29.5	1.9	3.5	17.8	51.0	30.8	81.8	1.9	2.5	38.1
Mountain Division:														
Colorado	E1	54	8	0.5	6.0	0.3	0.6	3.5	10.2	4.9	15.1	0.3	0 5	7.6
Arizona	E2	38	7	0.4	4.0	0.3	0.5	2.5	6.7	4.4	11.1	(D)	(NA)	(D)
Utah	E1	15	3	0.3	3.1	0.2	0.4	1.9	4.6	2.6	7.1	(D)	0.4	6.7
Nevada	-	13	6	0.3	4.2	0.2	0.4	2.5	10.6	2.5	12.8	(D)	(NA)	(NA)

See footnotes at end of table.

Table 2. Industry Statistics by Geographic Area: 1977 and 1972—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3993, SIGNS AND ADVERTISING DISPLAYS—Con.														
Pacific Division:														
Washington	–	70	13	1.3	18.3	1.1	2.3	14.0	42.4	12.6	53.2	2.2	0.7	11.1
Oregon	E2	45	5	0.4	4.3	0.2	0.5	2.4	7.4	5.2	12.5	(D)	0.5	8.1
California	E1	377	54	4.6	57.7	3.3	6.0	32.1	109.2	60.5	168.5	2.9	4.8	62.3
INDUSTRY 3995, BURIAL CASKETS														
United States	–	**406**	**133**	**12.0**	**129.7**	**9.3**	**17.8**	**79.7**	**264.2**	**244.1**	**505.9**	**16.3**	**14.8**	**210.3**
New England Division:														
New Hampshire	–	5	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Massachusetts	E1	9	5	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Middle Atlantic Division:														
New York	–	25	6	0.5	5.6	0.4	0.7	3.4	9.8	12.0	21.7	0.5	(NA)	(D)
Pennsylvania	–	23	12	1.8	17.8	1.5	2.7	13.2	31.0	26.3	56.7	(D)	(NA)	(D)
East North Central Division:														
Ohio	–	22	6	0.5	6.6	0.4	0.8	3.7	12.2	8.9	20.6	0.3	1.1	15.3
Indiana	–	29	16	2.3	33.0	1.6	3.0	15.1	63.7	41.0	104.4	(D)	2.3	56.8
Illinois	–	17	9	0.9	9.9	0.7	1.2	6.7	18.2	19.6	37.7	0.3	1.2	17.4
Michigan	E1	12	3	0.2	1.7	0.1	0.3	1.0	3.4	4.5	7.9	(D)	0.3	4.4
Wisconsin	–	6	3	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.2	2.5
West North Central Division:														
Missouri	–	14	6	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.5	5.6
South Atlantic Division:														
West Virginia	–	4	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina	–	14	6	0.3	2.6	0.3	0.6	1.9	3.9	7.3	11.1	0.2	0.3	3.4
South Carolina	–	4	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Georgia	E1	9	2	0.3	2.8	0.3	0.5	1.6	4.5	3.6	7.9	0.1	0.4	4.2
East South Central Division:														
Kentucky	–	8	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee	–	21	9	1.0	10.0	0.7	1.6	6.8	34.1	21.4	55.1	(D)	1.1	9.5
Alabama	–	14	6	0.3	2.0	0.2	0.4	1.5	6.3	10.5	16.8	(D)	0.3	2.8
Mississippi	–	8	4	0.2	1.7	0.2	0.3	1.1	3.5	5.5	8.8	(D)	(NA)	(D)
West South Central Division:														
Texas	–	22	7	0.3	3.2	0.2	0.5	1.8	5.4	7.8	13.0	(D)	0.5	6.6
Pacific Division:														
California	E1	35	9	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.9	10.6
INDUSTRY 3996, HARD SURFACE FLOOR COVERINGS														
United States	–	**21**	**13**	**6.4**	**93.5**	**5.0**	**10.4**	**68.6**	**321.3**	**291.9**	**607.2**	**16.9**	**5.8**	**212.0**
Middle Atlantic Division:														
New York	–	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
New Jersey	–	3	3	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Pennsylvania	–	3	3	4.4	66.6	3.4	7.3	50.8	237.5	210.3	439.4	(D)	(NA)	(D)
East South Central Division:														
Alabama	–	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
INDUSTRY 3999, MANUFACTURING INDUSTRIES, N.E.C.														
United States	E1	**3 976**	**614**	**67.3**	**669.1**	**52.0**	**92.3**	**408.5**	**1 484.7**	**1 208.1**	**2 662.0**	**81.3**	**65.1**	**897.2**
New England Division:														
Maine	–	16	3	0.4	3.6	0.4	0.8	3.0	5.1	7.3	12.2	(D)	(NA)	(NA)
New Hampshire	E2	18	4	0.5	4.2	0.4	0.7	2.8	5.9	5.9	11.7	0.3	(NA)	(D)
Massachusetts	–	114	26	4.3	42.1	2.8	5.3	23.3	101.6	46.9	146.5	3.5	2.9	38.2
Rhode Island	E5	163	7	0.7	5.6	0.6	0.9	3.6	11.3	9.4	20.7	0.6	0.7	7.0
Connecticut	E2	59	10	0.8	7.3	0.6	1.0	4.6	16.6	13.3	30.2	0.6	0.7	10.3
Middle Atlantic Division:														
New York	E2	732	120	FF	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	12.8	165.9
New Jersey	–	192	46	4.8	50.1	3.5	6.2	28.1	124.5	116.8	237.9	5.4	7.6	98.2
Pennsylvania	–	161	41	5.2	73.0	3.9	6.6	37.7	172.8	155.4	329.1	13.6	5.8	104.9
East North Central Division:														
Ohio	E1	133	25	2.1	19.0	1.7	3.0	12.2	36.3	34.0	71.6	1.8	2.3	29.1
Indiana	E3	47	7	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	4.1
Illinois	–	203	49	10.1	106.4	8.1	14.7	70.3	230.4	196.2	414.4	21.6	6.9	99.5
Michigan	E2	121	15	1.8	14.6	1.4	2.3	8.7	31.4	24.3	56.1	(D)	1.0	15.0
Wisconsin	–	84	18	2.7	24.8	1.8	2.8	12.4	48.7	47.2	95.7	(D)	2.3	40.8
West North Central Division:														
Minnesota	E2	66	9	0.9	7.1	0.7	1.2	5.0	12.6	8.3	21.0	0.5	1.2	12.0
Iowa	E1	27	4	0.3	2.1	0.2	0.3	1.1	5.8	2.9	8.6	(D)	0.7	11.1
Missouri	E2	80	12	1.1	10.0	0.9	1.7	6.9	24.6	15.4	39.8	(D)	1.4	19.9
Nebraska	E1	12	2	0.5	4.8	0.4	0.8	3.0	12.2	10.9	23.1	0.4	(NA)	(NA)

See footnotes at end of table.

Table 2. **Industry Statistics by Geographic Area: 1977 and 1972**—Con.

[For explanation of terms, see appendix A]

Geographic area	1977											1972	
		All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[2] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[2] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3999, MANUFACTURING INDUSTRIES, N.E.C.—Con.														
South Atlantic Division:														
Delaware	–	8	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland	–	37	6	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia	E1	30	5	0.7	7.5	0.6	1.1	5.6	20.1	30.5	50.4	0.8	0.5	9.7
North Carolina	–	49	13	2.6	25.8	2.0	4.1	16.1	59.2	34.2	86.2	2.9	1.8	36.5
Georgia	E3	30	5	0.3	2.6	0.3	0.4	1.6	5.7	5.4	11.1	0.2	1.0	12.3
Florida	E3	190	15	1.5	12.1	1.2	2.0	7.3	25.6	20.0	45.6	0.8	1.2	13.2
East South Central Division:														
Kentucky	–	18	6	0.5	3.6	0.4	0.7	2.4	4.8	3.4	8.1	0.2	1.0	10.2
Tennessee	E1	50	8	0.8	7.9	0.6	1.0	3.7	17.7	13.1	30.0	1.4	0.4	4.3
Alabama	–	27	3	0.4	3.9	0.3	0.6	2.3	10.1	15.1	25.1	0.7	0.2	2.2
Mississippi	E1	11	3	0.4	2.7	0.3	0.5	1.8	4.6	5.6	9.8	(D)	0.2	1.1
West South Central Division:														
Louisiana	E4	36	5	0.4	4.4	0.3	0.6	2.7	11.4	6.8	17.3	(D)	(NA)	(D)
Oklahoma	E7	33	3	0.3	2.8	0.2	0.4	1.7	5.6	4.5	10.1	(D)	0.2	2.4
Texas	E2	169	28	2.1	18.9	1.6	2.8	11.0	46.6	37.0	82.4	3.3	1.6	15.8
Mountain Division:														
Colorado	E2	59	7	0.4	3.2	0.3	0.5	1.8	7.8	5.3	12.9	(D)	0.4	7.5
New Mexico	E7	47	1	0.2	1.8	0.2	0.2	1.1	3.5	2.6	6.1	(D)	(NA)	(NA)
Arizona	E2	59	4	0.4	3.9	0.3	0.6	2.4	8.9	6.7	15.4	0.3	(NA)	(D)
Utah	E2	24	2	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Nevada	E6	18	5	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Pacific Division:														
Washington	E5	60	5	0.5	4.9	0.4	0.7	3.3	9.9	5.3	15.0	(D)	0.3	3.7
Oregon	E5	47	1	AA	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0.4	3.5
California	E3	618	76	6.0	56.4	4.9	8.5	36.0	121.6	93.3	213.1	4.1	5.8	78.2
Hawaii	E2	26	5	0.6	2.5	0.5	0.7	1.3	4.6	2.7	7.1	(D)	(NA)	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Statistics for some producing States are withheld to avoid disclosing figures for individual companies. However, for such States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3a. **Summary Statistics for the Industry: 1977**

[For explanation of terms, see appendix A]

Item	Unit of measure	Brooms and brushes (SIC 3991)	Signs and advertising displays (SIC 3993)	Burial caskets (SIC 3995)	Hard surface floor coverings (SIC 3996)	Manufacturing industries, n.e.c. (SIC 3999)
Primary product specialization ratio[1]	percent	91	98	99	92	91
Coverage ratio[2]	do	89	97	98	98	80
All establishments	number	409	3 468	406	21	3 976
With 1 to 19 employees	do	256	2 841	273	8	3 362
With 20 to 99 employees	do	111	547	112	6	488
With 100 employees or more	do	42	80	21	7	126
All employees, average for year	1,000	16.5	49.7	12.0	6.4	67.3
Payroll for year, all employees	mil. dol.	163.8	566.6	129.7	93.5	669.1
Production workers:						
Average for year	1,000	12.7	36.8	9.3	5.0	52.0
March	do	12.0	35.3	9.7	4.9	50.1
May	do	12.4	36.2	9.3	4.9	52.4
August	do	13.0	37.4	9.2	5.0	51.5
November	do	13.2	37.4	9.1	5.0	53.1
Hours	millions	24.0	69.2	17.8	10.4	92.3
January to March	do	5.8	16.3	4.6	2.5	22.6
April to June	do	6.0	17.3	4.4	2.7	23.3
July to September	do	6.1	17.5	4.3	2.6	22.4
October to December	do	6.2	18.1	4.4	2.5	24.1
Wages	mil. dol.	101.1	343.1	79.7	68.6	408.5
Cost of materials, etc.	do	326.7	689.2	244.1	291.9	1 208.1
Materials, parts, containers, etc., consumed	do	266.6	588.4	229.2	276.9	1 091.3
Resales	do	51.6	39.6	7.9	3.2	60.9
Fuels consumed	do	1.9	7.9	3.1	6.3	11.3
Purchased electric energy	do	5.5	12.2	3.6	5.5	17.3
Contract work	do	1.2	41.1	0.3	(Z)	27.2
Value of shipments, including resales	do	673.1	1 738.7	505.9	607.2	2 662.0
Value of resales	do	67.3	50.9	11.8	5.1	99.0
Value added by manufacture	do	353.6	1 060.9	264.2	321.3	1 484.7
Manufacturers' inventories:						
Beginning of year	do	119.9	190.0	78.2	76.2	442.9
Finished products	do	48.7	36.2	23.8	43.9	117.0
Work in process	do	20.6	63.8	18.9	11.6	108.4
Materials, supplies, fuel, etc.	do	50.7	90.0	35.6	20.7	217.5
End of year	do	129.9	210.8	81.8	84.9	481.1
Finished products	do	54.1	39.2	24.9	49.4	131.0
Work in process	do	22.4	72.2	20.2	12.1	125.2
Materials, supplies, fuel, etc.	do	53.4	99.4	36.7	23.3	224.8
Capital expenditures for plant and equipment	do	17.3	47.5	16.9	17.0	85.2
New capital expenditures	do	15.7	43.0	16.3	16.9	81.3
New buildings and other structures	do	2.4	13.5	2.2	1.9	21.5
New machinery and equipment	do	13.3	29.5	14.2	15.1	59.8
Used capital expenditures	do	1.6	4.4	0.6	0.1	3.9

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in industry.

[2]Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

[3]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts for contract and commission work on materials owned by others.

[4]Minimum percentage; exact percentage withheld to avoid disclosing operations of individual companies.

[5]Data for value of shipments represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[6]Data for value of shipments represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[7]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 3b. Supplemental Industry Statistics Based on Sample Estimates: 1977

(For explanation of terms, see appendix A. For description of annual survey of manufacture (ASM), see appendix B)

Item	Brooms and brushes (SIC 3991)		Signs and advertising displays (SIC 3993)		Burial caskets (SIC 3995)		Hard surface floor coverings, n.e.c. (SIC 3996)		Manufacturing industries, n.e.c. (SIC 3999)	
	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)	Amount (million dollars)	Standard error of estimate[1] (percent)
Purchased services:										
Cost of purchased services for repair of--										
Buildings and other structures	(1.3)	22	(1.8)	28	(0.7)	33	0.5	1	3.0	9
Response coverage ratio[2] (percent)	59	(X)	45	(X)	71	(X)	94	(X)	80	(X)
Machinery	(2.7)	16	(12.6)	26	2.5	14	3.9	1	7.6	8
Response coverage ratio[2] (percent)	63	(X)	50	(X)	70	(X)	94	(X)	81	(X)
Cost of purchased communication services	(2.3)	22	15.1	8	1.2	13	(D)	1	(27.9)	96
Response coverage ratio[2] (percent)	64	(X)	50	(X)	53	(X)	94	(X)	82	(X)
Rental payments	4.1	12	26.4	7	(2.3)	(A)	1.7	1	25.0	6
Buildings and other structures	3.2	14	21.1	8	(1.5)	98	.2	1	15.1	8
Machinery and equipment	(0.9)	17	(5.3)	18	(0.9)	(A)	1.4	1	99	7
Supplemental labor costs	26.6	4	71.5	4	17.9	3	18.3	1	100.4	2
Legal costs	12.3	4	43.4	4	9.2	3	7.4	1	52.5	3
Voluntary costs	14.3	4	28.1	8	8.7	4	10.9	1	47.9	2
Gross value of depreciable assets:										
Buildings and other structures:										
Beginning of year	60.3	14	124.7	11	48.7	9	69.4	1	216.0	4
New capital expenditures	(2.0)	29	(15.0)	23	3.3	13	1.8	1	(25.5)	19
Used capital expenditures	(2.0)	43	(0.9)	65	-	(X)	-	(X)	0.9	4
Retirements	(0.9)	35	(4.7)	17	(4.2)	51	0.6	1	(11.4)	16
End of year	63.5	13	135.9	10	47.9	8	70.6	1	231.0	5
Machinery and equipment:										
Beginning of year	98.5	6	227.9	8	72.1	6	160.8	1	368.8	4
New capital expenditures	(15.5)	15	26.8	12	13.8	6	15.0	1	(77.3)	22
Automobiles, trucks, etc., for highway use[3]	(0.5)	(A)	(4.3)	(A)	(2.1)	(A)	(D)	(A)	(D)	(A)
Computers and peripheral data processing equipment[3]	(0.5)	(A)	(0.7)	(A)	-	(X)	-	(X)	(2.7)	(A)
All other[3]	(13.7)	(A)	(17.4)	(A)	(10.5)	(A)	(14.5)	(A)	(57.4)	29
New machinery and equipment, n.s.k.[4]	(1.0)	(A)	(4.4)	(A)	(1.3)	(A)	(D)	(A)	(D)	(A)
Used capital expenditures	(0.7)	37	(4.2)	29	(.4)	26	0.1	1	3.0	13
Retirements	4.7	10	11.3	11	(4.0)	25	3.8	1	(23.4)	16
End of year	110.0	5	247.7	8	82.3	5	172.1	1	(425.7)	21
Total gross value of depreciable assets:										
Beginning of year	158.8	7	352.6	8	120.8	6	230.2	1	584.7	3
New capital expenditures	17.6	14	41.8	12	17.1	6	16.8	1	102.9	4
Used capital expenditures	(2.8)	33	(5.0)	26	(0.5)	25	.1	1	3.9	10
Retirements	5.6	12	16.0	10	(8.2)	34	4.4	1	(34.9)	15
End of year	173.5	6	383.5	8	130.1	5	242.7	1	656.6	3
Depreciation charges during 1977	12.5	6	33.6	7	8.2	8	12.0	1	58.3	5
Buildings and other structures	3.3	14	(9.5)	16	1.9	14	1.7	1	16.1	5
Machinery and equipment	0.9	6	24.1	7	6.3	8	10.3	1	42.2	7

Note: Data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used expenditures are shown in table 3a, as well as in this table. The figures in table 3a are census universe totals and may differ from the annual survey of manufactures (ASM) sample estimates shown in this table. The figures in this table represent the best estimates of year-to-year change as measured by the continuing ASM sample. However, they are subject to sampling error and, hence, as estimates of level, are not as reliable as the universe figures shown in table 3a.

- Represents zero. (A) Indicates standard errors of 100 percent or more. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (X) Not applicable. (Z) Less than 50 thousand dollars.

[1]For a description of the standard error of estimate, see the section "Qualifications of the Data" in appendix B. Figures in parentheses have standard errors of 15 percent or more.

[2]This is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those sample establishments that reported the specific inquiry to the weighted total employment for all sample establishments classified in the industry.

[3]The standard errors for the detailed categories of new machinery and equipment expenditures were not directly calculated. However, the actual figure is not expected to exceed the estimated figure shown.

[4]This category represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories.

Table 4. Industry Statistics by Employment Size of Establishment: 1977

[For explanation of terms, see appendix A]

Industry and employment size class	E[1]	All establishments (no.)	All employees: Number (1,000)	All employees: Payroll (million dollars)	Production workers: Number (1,000)	Production workers: Hours (millions)	Production workers: Wages (million dollars)	Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
INDUSTRY 3991, BROOMS AND BRUSHES												
Total	-	**409**	**16.5**	**163.8**	**12.7**	**24.0**	**101.1**	**353.6**	**326.7**	**673.1**	**15.7**	**129.9**
Establishments with an average of—												
1 to 4 employees	E8	142	0.2	2.1	0.2	0.3	1.3	5.2	4.4	9.6	0.2	1.7
5 to 9 employees	E3	45	0.3	3.3	0.2	0.5	1.8	6.7	6.6	13.4	0.3	2.2
10 to 19 employees	E1	69	0.9	8.3	0.7	1.2	4.9	18.1	17.9	36.2	0.7	5.7
20 to 49 employees	-	71	2.4	21.4	1.9	3.4	13.4	48.9	49.3	97.6	2.5	16.1
50 to 99 employees	-	40	2.8	25.9	2.3	4.3	16.9	60.8	55.6	115.4	2.8	17.6
100 to 249 employees	-	29	4.4	41.9	3.2	6.0	24.2	85.2	76.8	159.8	3.4	34 2
250 to 499 employees	-	11	(5.4)	(60.9)	(4.1)	(8.2)	(38.6)	(128.6)	(116.1)	(241.1)	(6.0)	(52.5)
500 to 999 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	151	0.3	3.1	0.3	0.5	1.9	7.4	6.4	13.8	0.2	2.5
INDUSTRY 3993, SIGNS AND ADVERTISING DISPLAYS												
Total	**E1**	**3 468**	**49.7**	**566.6**	**36.8**	**69.2**	**343.1**	**1 060.9**	**689.2**	**1 738.7**	**43.0**	**210.8**
Establishments with an average of—												
1 to 4 employees	E7	1 716	2.7	31.4	2.6	4.1	19.6	65.9	41.9	107.9	2.7	11.5
5 to 9 employees	E2	561	3.8	41.6	2.9	5.5	26.0	75.7	51.5	126.7	2.6	12.8
10 to 19 employees	E1	564	7.8	87.6	5.6	10.7	53.1	155.4	93.9	247.5	6.4	25.2
20 to 49 employees	-	409	12.5	143.3	9.1	17.0	87.3	258.6	167.4	424.6	12.3	44.7
50 to 99 employees	-	138	9.7	109.0	7.2	13.8	65.6	201.0	128.0	325.8	6.8	37.9
100 to 249 employees	-	71	10.1	117.1	7.2	13.4	67.4	221.2	147.6	364.0	8.7	53.8
250 to 499 employees	-	8	(3.1)	(36.6)	(2.3)	(4.6)	(24.1)	(83.2)	(59.1)	(142.2)	(3.6)	(24.9)
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	1 512	2.8	31.5	2.6	4.2	19.4	61.6	40.0	101.6	2.5	11.6
INDUSTRY 3995, BURIAL CASKETS												
Total	-	**406**	**12.0**	**129.7**	**9.3**	**17.8**	**79.7**	**264.2**	**244.1**	**505.9**	**16.3**	**81.8**
Establishments with an average of—												
1 to 4 employees	E8	153	0.2	2.7	0.2	0.4	1.6	6.0	5.8	11.8	0.2	2.1
5 to 9 employees	E3	47	0.3	3.1	0.2	0.5	1.8	6.5	8.1	14.5	0.2	2.4
10 to 19 employees	E1	73	1.0	9.5	0.8	1.5	5.6	17.2	24.3	41.4	0.5	6.6
20 to 49 employees	-	83	2.6	23.8	2.0	3.9	15.2	43.7	54.7	98.1	2.0	15.1
50 to 99 employees	-	29	1.8	17.4	1.5	2.9	11.4	32.6	46.6	78.6	(13.6)	10.6
100 to 249 employees	-	15	(3.2)	(34.7)	(2.6)	(4.7)	(23.6)	(72.6)	(64.0)	(136.3)	(D)	(22.4)
250 to 499 employees	-	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	3	(2.8)	(38.5)	(2.0)	(3.9)	(20.5)	(85.8)	(40.7)	(125.2)	(D)	(22.6)
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	143	0.3	3.5	0.3	0.5	2.1	7.2	7.1	14.3	0.2	2.6
INDUSTRY 3996, HARD SURFACE FLOOR COVERINGS												
Total	-	**21**	**6.4**	**93.5**	**5.0**	**10.4**	**68.6**	**321.3**	**291.9**	**607.2**	**16.9**	**84.9**
Establishments with an average of—												
1 to 4 employees	E0	5	(Z)	0.1	(Z)	(Z)	0.1	0.1	0.3	0.5	(16.9)	0.1
10 to 19 employees	E6	3	(Z)	0.4	(Z)	0.1	0.3	1.4	1.4	2.8	(D)	0.4
20 to 49 employees	-	3	(1.3)	(16.3)	(0.9)	(2.0)	(10.6)	(46.2)	(46.9)	(95.1)	(D)	(13.9)
50 to 99 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
250 to 499 employees	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
500 to 999 employees	-	3	(5.1)	(76.8)	(4.0)	(8.3)	(57.7)	(273.6)	(243.4)	(508.8)	(D)	(70.5)
2,500 employees or more	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records[2]	E0	6	(Z)	0.3	(Z)	(Z)	0.3	1.2	1.2	2.3	0.1	0.3
INDUSTRY 3999, MANUFACTURING INDUSTRIES, N.E.C.												
Total	**E1**	**3 976**	**67.3**	**669.1**	**52.0**	**92.3**	**408.5**	**1 484.7**	**1 208.1**	**2 662.0**	**81.3**	**481.1**
Establishments with an average of—												
1 to 4 employees	E7	2 350	3.4	33.8	3.3	4.9	20.7	79.3	64.1	145.1	3.3	28.2
5 to 9 employees	E4	568	3.8	38.5	2.9	5.2	23.1	86.1	72.4	157.9	5.1	27.3
10 to 19 employees	E3	444	6.0	55.0	4.5	7.6	33.4	118.0	101.9	218.7	4.0	37.8
20 to 49 employees	E2	355	10.7	97.7	8.4	14.8	60.8	216.2	172.8	386.0	10.2	62.4
50 to 99 employees	E1	133	9.2	78.3	7.2	13.2	51.3	167.1	131.3	297.3	7.1	49.7
100 to 249 employees	-	91	14.0	128.2	11.0	20.1	83.3	279.4	227.8	501.5	16.1	98.6
250 to 499 employees	-	24	7.9	72.5	6.0	11.0	45.6	161.4	137.3	292.2	15.3	61.3
500 to 999 employees	-	6	4.8	59.3	3.3	5.9	32.2	136.7	121.8	251.6	6.9	61.3
1,000 to 2,499 employees	-	5	7.5	105.8	5.3	9.7	58.0	240.5	178.7	411.7	13.3	54.4
Covered by administrative records[2]	E9	2 036	4.4	43.5	3.9	6.2	26.5	100.9	83.6	184.5	3.4	35.0

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. Data for this item are included in figures in parentheses above. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Payroll and sales data for small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the balance of items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 to 99 percent; E0—100 percent.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1977 were obtained from administrative records supplied by other agencies of the Federal Government. These data were then used in conjunction with industry averages to estimate the balance of items shown. Data are also included in respective size classes shown.

[3]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[4]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

[5]Four-digit industry totals for all items including establishment counts are not equal to sum of 6-digit subindustry figures due to difficulties in classifying a few establishments at subindustry level.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1977

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing operations of individual companies. For explanation of terms, see appendix A]

Industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3991	**Brooms and brushes:**										
	Entire industry	409	16.5	163.8	12.7	24.0	101.1	353.6	326.7	673.1	15.7
	Establishments with 75 percent specialization or more	378	13.4	133.3	10.5	19.8	83.8	293.0	263.6	548.4	13.9
39911	Brooms:										
	Establishments with this product class primary	63	2.3	17.5	1.8	3.2	11.7	30.1	44.7	74.6	1.3
	Establishments with 75 percent specialization or more in class	37	1.0	8.4	0.8	1.4	5.9	14.8	22.7	37.4	0.9
39912	Paint and varnish brushes and rollers:										
	Establishments with this product class primary	46	4.6	46.3	3.5	6.7	27.5	105.3	107.3	206.7	4.6
	Establishments with 75 percent specialization or more in class	43	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39913	Other brushes:										
	Establishments with this product class primary	106	8.5	89.8	6.5	12.5	55.7	193.9	154.8	348.0	7.9
	Establishments with 75 percent specialization or more in class	89	5.9	62.0	4.6	8.9	39.5	133.8	99.6	231.6	6.0
3993	**Signs and advertising displays:**										
	Entire industry	3 468	49.7	566.6	36.8	69.2	343.1	1 060.9	689.2	1 738.7	43.0
	Establishments with 75 percent specialization or more	3 402	47.6	545.1	35.3	66.2	330.2	1 011.6	649.8	1 651.0	41.5
39931	Tubing and fluorescent and incandescent bulb signs:										
	Establishments with this product class primary	423	11.6	143.1	8.2	16.0	87.3	270.6	140.8	406.3	12.7
	Establishments with 75 percent specialization or more in class	333	10.0	126.1	7.1	13.7	76.3	242.4	125.4	363.9	10.7
39932	Nonelectric signs and advertising displays:										
	Establishments with this product class primary	601	18.0	204.8	13.0	24.4	118.4	381.4	292.4	669.4	15.8
	Establishments with 75 percent specialization or more in class	511	15.2	173.5	10.9	20.5	100.0	313.9	239.6	550.0	13.1
39933	Advertising specilties:										
	Establishments with this product class primary	240	8.2	89.5	6.1	11.7	57.1	167.3	101.3	266.5	5.0
	Establishments with 75 percent specialization or more in class	215	7.1	78.6	5.3	10.2	50.0	147.7	88.8	235.2	4.3
3995	**Burial caskets:**										
	Entire industry	406	12.0	129.7	9.3	17.8	79.7	264.2	244.1	505.9	16.3
	Establishments with 75 percent specialization or more	401	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39951	Lined and trimmed metal caskets and coffins (adult):										
	Establishments with this product class primary	127	7.6	83.3	5.8	10.9	48.8	178.8	151.4	327.8	11.9
	Establishments with 75 percent specialization or more in class	69	5.3	62.6	4.0	7.7	35.3	141.7	102.4	242.4	11.0
39952	Lined and trimmed wood caskets and coffins (adult):										
	Establishments with this product class primary	48	1.9	18.3	1.5	3.1	13.1	32.1	31.4	63.5	1.5
	Establishments with 75 percent specialization or more in class	20	1.2	11.3	0.9	1.8	8.5	19.0	15.8	34.9	1.1
39953	Other caskets, coffins, and metal vaults:										
	Establishments with this product class primary	37	1.8	20.3	1.4	2.7	13.1	37.7	46.3	84.0	2.5
	Establishments with 75 percent specialization or more in class	30	0.9	10.6	0.8	1.4	6.6	20.6	29.3	50.1	1.5
3996	**Hard surface floor coverings:**										
	Entire industry	21	6.4	93.5	5.0	10.4	68.6	321.3	291.9	607.2	16.9
	Establishments with 75 percent specialization or more	19	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3999	**Manufacturing industries, n.e.c.:**										
	Entire industry	3 976	67.3	669.1	52.0	92.3	408.5	1 484.7	1 208.1	2 662.0	81.3
	Establishments with 75 percent specialization or more	3 823	57.0	541.0	44.7	79.1	340.3	1 209.3	992.0	2 175.5	64.5
39991	Chemical fire extinguishing equipment and parts:										
	Establishments with this product class primary	21	4.9	65.4	3.3	6.5	34.5	134.4	144.3	270.9	13.4
	Establishments with 75 percent specialization or more in class	17	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39992	Coin-operated amusement machines:										
	Establishments with this product class primary	14	4.5	50.4	3.9	7.3	37.5	100.4	81.3	178.0	(D)
	Establishments with 75 percent specialization or more in class	14	4.5	50.4	3.9	7.3	37.5	100.4	81.3	178.0	(D)
39993	Matches:										
	Establishments with this product class primary	20	3.5	33.9	2.8	5.4	25.8	64.3	47.7	111.9	2.5
	Establishments with 75 percent specialization or more in class	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39994	Candles:										
	Establishments with this product class primary	84	4.4	38.7	3.3	5.9	21.5	89.5	72.9	160.5	5.4
	Establishments with 75 percent specialization or more in class	82	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39995	Lamp shades:										
	Establishments with this product class primary	57	1.7	14.6	1.4	2.5	9.1	28.3	23.2	51.3	2.4
	Establishments with 75 percent specialization or more in class	51	1.4	12.4	1.2	2.2	8.0	24.7	19.9	44.5	(D)
39996	Dressed and dyed furs:										
	Establishments with this product class primary	49	1.3	19.3	1.0	1.8	14.2	43.4	28.6	71.6	0.4
	Establishments with 75 percent specialization or more in class	49	1.3	19.3	1.0	1.8	14.2	43.4	28.6	71.6	0.4
39997	Umbrellas, parasols, and canes:										
	Establishments with this product class primary	26	0.8	7.9	0.6	1.2	4.8	18.7	22.2	40.9	0.8
	Establishments with 75 percent specialization or more in class	23	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
39999	Other miscellaneous fabricated products, n.e.c.:										
	Establishments with this product class primary	1 111	27.8	273.0	20.7	36.5	157.8	636.8	513.1	1 132 9	36.7
	Establishments with 75 percent specialization or more in class	529	19.3	169.5	14.6	25.9	103.5	398.1	313.8	704.4	19.4

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. n.e.c. Not elsewhere classified. (S) Withheld because estimate did not meet publication standards. (X) Not applicable. (Z) Less than 50 thousand dollars or hours; under 50 employees.

[1]Data in value of shipments column represent value of production rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in finished products inventories between beginning and end of year.

[2]Data in value of shipments column represent value of work done rather than value of shipments. Consequently, formula for computing value added by manufacture was modified to exclude any change in inventories between beginning and end of year.

Table 5b. Industry-Product Analysis — Value of Shipments for an Industry and Primary Product Shipments, and Specialization and Coverage Ratios: 1977, 1972, and 1967

(An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work. Columns A-D show this product pattern for an industry, and column E shows primary product specialization ratio. The extent to which an industry's primary products are shipped by establishments classified in and out of an industry is shown in columns F-H and coverage ratio is shown in column I. For explanation of terms, see appendix A)

1977 product code	Industry and census year	Value of shipments					Value of primary product shipments			
		Total (million dollars)	Primary products (million dollars)	Secondary products (million dollars)	Miscellaneous receipts (million dollars)	Primary product specialization ratio Col. B / Col. B&C (percent)	Total made in all industries (million dollars)	Made in this industry (million dollars)	Made in other industries (million dollars)	Coverage ratio Col. B / Col. F (percent)
		A	B	C	D	E	F	G	H	I
3991	Brooms and brushes.....1977..	673.1	552.9	51.5	68.7	91	620.8	552.9	67.9	89
	1972..	438.3	367.1	32.4	38.8	92	391.8	367.1	24.7	94
	1967..	371.8	270.8	31.5	69.5	90	295.1	270.8	24.3	92
3993	Signs and advertising displays.....1977..	1,738.7	1,561.8	36.4	140.6	98	1,606.9	1,561.8	45.1	97
	1972..	1,198.0	1,059.6	21.8	116.6	98	1,089.2	1,059.6	29.6	97
	1967..	875.1	761.7	21.3	92.1	97	800.6	761.7	38.9	95
3995	Burial caskets.....1977..	505.9	485.5	4.2	16.2	99	494.8	485.5	9.3	98
	1972..	391.9	382.2	2.4	7.3	99	387.9	382.2	5.7	99
	1967..	306.1	282.0	13.9	10.2	95	288.0	282.0	6.0	98
3996	Hard surface floor coverings.....1977..	607.2	551.6	48.3	7.4	92	561.3	551.6	9.7	98
	1972..	342.3	298.3	38.5	5.5	88	300.3	298.3	2.0	99
	1967..	221.7	185.5	31.3	4.8	86	191.6	185.5	6.0	97
3999	Manufacturing industries, n.e.c.....1977..	2,662.0	2,318.3	217.2	126.5	91	2,589.0	2,318.3	270.7	90
	1972..	1,534.7	1,330.5	126.1	78.1	91	1,455.3	1,330.5	119.6	91
	1967..	943.3	826.9	51.1	65.2	94	922.4	826.9	95.5	90

n.e.c. Not elsewhere classified.

Table 5c. Industry-Product Analysis — Shipments by Product Class and Industry: 1977

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Product group, product class, and miscellaneous receipts	All industries	Brooms and brushes (SIC 3991)	Signs and advertising displays (SIC 3993)	Burial caskets (SIC 3995)	Hard-surface floor coverings (SIC 3996)	Manufacturing industries, n.e.c. (SIC 3999)	Other industries
	Total	(X)	673.1	1,738.7	505.9	607.2	2,662.0	(X)
	Primary products	(X)	552.9	1,561.8	485.5	551.6	2,318.3	(X)
	Secondary products	(X)	51.5	36.4	4.2	48.3	217.2	(X)
	Miscellaneous receipts	(X)	68.7	140.6	16.2	7.4	126.5	(X)
3991-	Brooms and brushes	620.8	552.9	.1	-	-	4.6	63.2
39911	Brooms	83.0	61.2	(D)	-	-	(D)	(D)
39912	Paint and varnish brushes and rollers	184.5	179.5	(D)	-	-	(D)	(D)
39913	Other brushes	309.5	268.6	(D)	-	-	(D)	(D)
39910	Brooms and brushes, n.s.k	43.8	43.6	-	-	-	-	.2
3993-	Signs and advertising displays	1,606.9	(D)	1,561.8	-	-	(D)	43.4
39931	Tubing, fluorescent and incandescent bulb signs	349.8	(D)	348.8	-	-	-	(D)
39932	Nonelectric signs and advertising displays	615.6	-	579.7	-	-	(D)	(D)
39933	Advertising specialties	262.5	-	255.3	-	-	1.0	6.2
39930	Signs and advertising displays, n.s.k	379.0	-	378.0	-	-	(Z)	1.0
3995-	Burial caskets	494.8	-	(D)	485.5	-	-	(D)
39951	Metal caskets, coffins, lined, trimmed (adult)	298.1	-	(D)	292.9	-	-	(D)
39952	Wood caskets and coffins, lined, trimmed (adult)	85.6	-	-	85.6	-	-	-
39953	Other caskets and coffins, and metal vaults	79.2	-	-	76.3	-	-	2.9
39950	Burial caskets, n.s.k	31.9	-	-	30.8	-	-	1.1
39960	Floor and wall coverings	561.3	-	-	-	(D)	-	(D)
3999-	Manufacturing industries, n.e.c	2,589.0	(D)	(D)	(D)	-	2,318.3	264.8
39991	Chemical fire extinguishing equipment and parts	216.8	-	-	-	-	210.7	6.2
39992	Coin-operated amusement machines	242.2	-	(D)	-	-	196.4	(D)
39993	Matches	105.5	-	-	-	-	105.5	-
39994	Candles	160.3	-	(D)	-	-	147.7	(D)
39995	Lamp shades	51.4	-	-	-	-	46.1	5.3
39996	Furs, dressed and dyed	76.2	-	-	-	-	(D)	(D)
39997	Umbrellas, parasols, and canes	36.0	-	(D)	-	-	(D)	.1
39999	Other miscellaneous fabricated products, n.e.c	1,086.3	(D)	(D)	(D)	-	897.5	183.2
39990	Manufacturing industries, n.e.c., n.s.k	614.2	.1	.1	(Z)	-	605.7	8.3
	Other shipments by 4-digit product group--Con.							
2392-	Housefurnishings, n.e.c	(X)	17.0	-	-	-	(D)	(X)
2399-	Fabricated textile products, n.e.c	(X)	(D)	-	-	-	(D)	(X)
2499-	Wood products, n.e.c	(X)	1.7	(D)	-	-	(D)	(X)
2731-	Book publishing	(X)	-	-	-	-	(D)	(X)
2752-	Commercial printing, lithographic	(X)	-	(D)	-	-	-	(X)
2841-	Soap and other detergents	(X)	(D)	-	-	-	(D)	(X)
2842-	Polishes and sanitation goods	(X)	(D)	-	-	(D)	(D)	(X)
2869-	Industrial organic chemicals, n.e.c	(X)	-	-	-	-	(D)	(X)
2891-	Adhesives and sealants	(X)	-	-	-	(D)	(D)	(X)
3079-	Miscellaneous plastics products	(X)	(D)	(D)	-	(D)	(D)	(X)
3292-	Asbestos products	(X)	-	-	-	(D)	-	
3433-	Heating equipment, except electric	(X)	-	-	-	-	(D)	
3442-	Metal doors, sash, and trim	(X)	-	-	(D)	-	-	
3443-	Fabricated plate work (boiler shops)	(X)	-	-	-	-	(D)	
3499-	Fabricated metal products, n.e.c	(X)	-	(D)	(D)	-	(D)	
3569-	General industrial machinery, n.e.c	(X)	-	-	-	-	(D)	
3634-	Electric housewares and fans	(X)	-	-	-	-	(D)	X
3635-	Household vacuum cleaners	(X)	(D)	-	-	-	-	X
3645-	Residential lighting fixtures	(X)	-	-	-	-	(D)	X
3648-	Lighting equipment, n.e.c	(X)	-	(D)	-	-	(D)	(X)
3679-	Electronic components, n.e.c	(X)	-	(Z)	-	-	2.4	(X)
3728-	Aircraft equipment, n.e.c	(X)	-	-	-	-	(D)	(X)
3822-	Environmental controls	(X)	-	-	-	-	11.9	(X)
3823-	Process control instruments	(X)	-	-	-	-	4.7	(X)
3829-	Measuring and controlling devices, n.e.c	(X)	-	-	-	-	(D)	(X)
3944-	Games, toys, and children's vehicles	(X)	-	(D)	-	-	(D)	(X)
3949-	Sporting and athletic goods, n.e.c	(X)	(D)	(D)	-	-	(D)	(X)
3951-	Pens and mechanical pencils	(X)	-	-	-	-	(D)	(X)
3961-	Costume jewelry	(X)	-	-	-	-	(D)	(X)
3964-	Needles, pins, and fasteners	(X)	-	-	-	-	(D)	(X)
	Miscellaneous receipts:							
93000 00	Contract work	(X)	.8	24.2	.3	(D)	19.3	(X)
99980 13	Sales of scrap refuse	(X)	-	(D)	-	(D)	.6	(X)
99980 31	Receipts for installation or construction	(X)	-	-	-	-	(D)	(X)
99980 41	Receipts for research and developmental work	(X)	-	(D)	-	-	(D)	(X)
99980 61	Receipts for repair work	(X)	-	27.1	-	-	.6	(X)
99980 00	Miscellaneous receipts, n.s.k	(X)	.3	6.9	4.1	-	1.6	(X)
99980 98	Other miscellaneous receipts	(X)	-	29.3	-	-	4.8	(X)
99989 00	Resales	(X)	67.3	50.9	11.8	5.1	99.0	(X)

See footnotes at end of table.

Table 5c. Industry-Product Analysis—Shipments by Product Class and Industry: 1977—Con.

(Millions of dollars. Table shows where products of an industry (referred to as primary and listed in table 6a) are made and what products are made by establishments classified in an industry. Read down an industry column to find what products are produced in an industry. Only those product groups that have at least $2 million in shipments from establishments classified in one of industries included in this chapter are shown. Read across to determine where products of industries in this chapter are produced. To extent that some of primary products are made in industries not included in this chapter, value of such shipments is shown in "Other industries" column. Specified "Other industries" are listed at end of table if they account for more than $5 million of products primary to this chapter. For explanation of terms, see appendix A)

1977 product code	Industry and miscellaneous receipts	Other industries	1977 product code	Industry and miscellaneous receipts	Other industries
	Other industries with over $5 million shipments of primary products:			Other industries with over $5 million shipments of primary product--Con.	
3991-	2392 House furnishings, n.e.c	(D)	3999-	2649 Converted paper products, n.e.c	(D)
	2841 Soap and other detergents	(D)		2841 Soap and other detergents	(D)
	3079 Miscellaneous plastics products	(D)		3421 Cutlery	(D)
	3952 Lead pencils and art goods	(D)		3469 Metal stampings, n.e.c	(D)
	3964 Needles, pins, and fasteners	(D)		3634 Electric housewares and fans	(D)
				3645 Residential lighting fixtures	5.7
3993-	2653 Corrugated and solid fiber boxes	16.0		3873 Watches, clocks, and watchcases	(D)
	2752 Commercial printing, lithographic	(D)		3944 Games, toys and children's vehicles	(D)
				3951 Pens and mechanical pencils	(D)
3996-	3079 Miscellaneous plastics products	(D)		3964 Needles, pins, and fasteners	(D)

- Represents zero. (D) Withheld to avoid disclosing operations of individual companies. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (Z) Less than 50 thousand dollars or hours; under 50 employees.

Table 6a. Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3991- --	BROOMS AND BRUSHES						
	Total	.....	(NA)	(X)	620.8	(X)	391.8
39911 --	Brooms	.....	(NA)	(X)	83.0	(X)	60.5
39911 13	Household floor brooms	1,000 dozens..	39	(S)	43.3	2,342.1	35.8
39911 98	Other brooms (industrial, whisk, toy, hearth, streetsweeping machine, street, stable, etc.)	.....	38	(X)	33.5	(X)	23.7
39911 00	Brooms, n.s.k	.....	(NA)	(X)	6.2	(X)	1.0
39912 --	Paint and varnish brushes and rollers	.....	(NA)	(X)	184.5	(X)	112.6
	Whitewash, kalsomine, paperhanging, marking, and stenciling brushes:						
39912 11	Pure bristle	1,000 dozens..	29	**3,868.0	40.6	4,572.5	30.9
39912 33	Synthetic bristle and other materials, including mixtures		34	*8,285.6	76.2	5,747.1	42.2
	Paint rollers, roller frames, and replacement rollers:						
39912 81	Complete units		18	2,924.6	22.3	3,464.4	25.6
39912 83	Roller frames		10	1,192.1	10.8		
39912 85	Replacement rollers	1,000 dozens..	17	7,042.5	32.9	4,079.0	12.3
39912 00	Paint and varnish brushes and rollers, n.s.k	.....	(NA)	(X)	1.8	(X)	1.6
39913 --	Other brushes	.....	(NA)	(X)	309.5	(X)	186.4
	Personal brushes:						
39913 21	Toothbrushes	1,000 dozens..	7	(S)	38.8	r17,757.2	26.3
39913 27	Hairbrushes	1,000 dozens..	13	(S)	47.1	6,438.9	23.8
39913 29	Other, including shaving brushes	.....	10	(X)	23.8	(X)	15.9
	Maintenance brushes (floorsweeps and brushes, scrubbrushes, dusting brushes, window brushes, etc.):						
39913 36	Household, including any twisted-in-brushes	.....	30	(X)	61.6	(X)	72.6
39913 38	Industrial, including any twisted-in-wire brushes	.....	38	(X)	53.4		
39913 43	Industrial brushes, except maintenance, including power-driven rotary, end, cup, jewelers', dentists' brushes, etc	.....	25	(X)	44.4	(X)	24.7
39913 98	Other brushes, including artists' brushes and hair pencils, except artists' airbrushes	.....	20	(X)	34.6	(X)	21.6
39913 00	Other brushes, n.s.k	.....	(NA)	(X)	5.7	(X)	1.5
39910 00	Brooms and brushes, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	30.0	(X)	16.7
39910 02	Brooms and brushes, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	13.8	(X)	15.6

1977 product code	Product	Number of companies with shipments of $100,000 or more	Product shipments (million dollars)	
			1977[3] [4]	1972
	SIGNS AND ADVERTISING DISPLAYS			
3993- --	Total	(NA)	1,606.9	1,089.2
39931 11	Luminous tubing, and fluorescent lamp and incandescent bulb signs (electric)	387	349.8	198.7
39932 --	Nonelectric signs and advertising displays	(NA)	615.6	445.9
	Metal signs, by any application process, including point-of-sale signs, road signs, highway and street markers, and all other metal signs:			
39932 11	Porcelain enameled	19	11.3	23.4
39932 19	All other metal signs	128	153.3	116.0
	Signs other than metal:			
39932 23	Screen printed	43	42.2	62.6
39932 25	Other	57	39.5	38.1
	Window, backbar, and counter and lobby cutouts and displays:			
39932 33	Screen printed	22	19.5	13.1
39932 35	Other	37	62.9	50.1
	All other signs and advertising displays, including sign letters:			
39932 93	Screen printed	51	45.4	23.9
39932 95	Other	107	139.1	106.4
39932 00	Nonelectric signs and advertising displays, n.s.k	(NA)	102.4	12.3
39933 11	Advertising specialties	272	262.5	155.7
39930 00	Signs and advertising displays, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	277.4	169.1
39930 02	Signs and advertising displays, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	101.6	119.8

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972**—Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	BURIAL CASKETS						
3995- --	Total	.....	(NA)	(X)	494.8	(X)	387.9
39951 --	Metal caskets and coffins, completely lined and trimmed, adult sizes only	.....	(NA)	(X)	298.1	(X)	211.2
39951 13	Steel caskets and coffins, excluding stainless steel	Thousands	104	1,197.5	253.4	1,105.4	180.5
39951 15	Other metal caskets and coffins (stainless steel, bronze, copper, etc.)	Thousands	34	44.8	33.6	45.4	26.3
39951 00	Metal caskets and coffins, n.s.k.	.....	(NA)	(X)	11.2	(X)	4.4
39952 --	Wood caskets and coffins, completely lined and trimmed, adult sizes only	.....	(NA)	(X)	85.6	(X)	68.7
39952 11	Cloth covered, softwood	Thousands	49	214.0	20.3	363.2	27.6
39952 52	Hardwood	Thousands	53	*176.7	58.1	205.2	40.5
39952 00	Wood caskets and coffins, n.s.k.	.....	(NA)	(X)	7.2	(X)	.6
39953 --	Other caskets and coffins and metal vaults	.....	(NA)	(X)	79.2	(X)	67.8
39953 11	Caskets and coffins other than metal or wood, completely lined and trimmed, including plastic, fiberglass, foam, masonite, cardboard, fiberboard, etc., and including children's sizes, regardless of material	Thousands	12	(S)	6.1	81.7	6.8
	Casket shells, KD and SU, unlined or untrimmed:						
39953 31	Metal		14	(S)	35.1	496.5	34.5
39953 58	Other materials, including wood, plastic, fiberglass, foam, masonite, cardboard, fiberboard, etc		12	*115.2	14.2	127.8	6.5
39953 93	Burial vaults, except concrete, burial boxes, and casket shipping containers and cases	Thousands	12	(X)	16.8	(X)	14.0
39953 00	Other caskets and coffins and metal vaults, n.s.k.	.....	(NA)	(X)	7.0	(X)	6.0
39950 00	Burial caskets, n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	17.6	(X)	21.4
39950 02	Burial caskets, n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	14.3	(X)	18.8
	HARD SURFACE FLOOR COVERINGS						
3996- --	Total	.....	(NA)	(X)	561.3	(X)	300.3
39960 14	Linoleum sheet goods and tile	Mil. sq. ft.	2				
	Asphalted-felt-base floor and wall covering:						
	Floor covering:			(5)	(5)	(X)	15.1
39960 25	Enamel coated or printed border rugs and sheet goods	Mil. sq. yd.	1				
	Plastic coated or plastic printed border rugs and sheet goods, including rotogravure printed:						
39960 33	Temporary rotogravure, noncushioned		1				
39960 35	Temporary rotogravure, cushioned		2	136.8	290.9		
39960 37	Permanent rotogravure		3				
39960 41	Other asphalted-felt-base floor covering		-	-	-		
39960 51	Wall covering		-	-	-	(NA)	280.8
	Supported plastic, including scrap vinyl backed floor, wall, and counter covering:						
39960 62	Floor covering		4	[5]181.5	[5]267.8		
39960 63	Wall and counter covering	Mil. sq. yd.	8				
39960 00	Hard surface floor coverings, n.s.k., typically for establishments with 20 employees or more (see note)	.....	(NA)	(X)	.2	(X)	4.1
39960 02	Hard surface floor coverings, n.s.k., typically for establishments with less than 20 employees (see note)	.....	(NA)	(X)	2.3	(X)	.3
	MANUFACTURING INDUSTRIES, N.E.C.						
3999- --	Total	.....	(NA)	(X)	2,589.0	(X)	1,455.3
39991 --	Chemical fire extinguishing equipment and parts	.....	(NA)	(X)	216.8	(X)	125.7
	Hand portable extinguishers:						
39991 13	Carbon dioxide	Thousands	7	545.3	14.0	384.6	10.7
39991 17	Dry chemical		10	**5,467.3	108.3	5,175.7	58.3
39991 18	Pressurized water		8	544.6	10.6	584.7	10.0
39991 31	Halogenated agents		4			(X)	(3)
39991 39	Other hand portable extinguishers, including foam		2	(NA)	65.7	(NA)	[3]11.5
	Other chemical fire extinguishing equipment and parts:						
39991 51	Two-wheeled fire engines	Thousands	2			(X)	21.6
39991 61	Fixed systems, excluding water sprinkler systems	.....	4				
39991 71	Parts and attachments for chemical fire extinguishing equipment	.....	6	(X)	14.0	(X)	11.6
39991 00	Chemical fire extinguishing equipment and parts, n.s.k.	.....	(NA)	(X)	4.1	(X)	2.0

See footnotes at end of table.

Table 6a. **Products and Product Classes — Quantity and Value of Shipments by All Producers: 1977 and 1972** — Con.

(Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of the products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see appendix A, Value of shipments)

1977 product code	Product	Unit of measure	1977			1972	
			Number of companies with shipments of $100,000 or more	Product shipments[1]		Product shipments	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
	MANUFACTURING INDUSTRIES, N.E.C.--Con.						
39992 --	Coin-operated amusement machines	.....	(NA)	(X)	242.2	(X)	91.1
39992 12	Pinball machines and bell-type machines and consoles	Thousands	7	165.5	160.3	(X)	91.1
39992 98	Other amusement machines, including strength testing, skill games, and other arcade pieces	Thousands	9	47.9	80.8		
39992 00	Coin-operated amusement machines, n.s.k.	.....	(NA)	(X)	1.1	(X)	-
39993 --	Matches	.....	(NA)	(X)	105.5	(X)	81.6
39993 36	Wooden stem	Mil. boxes of matches.	4	(S)	16.7	(NA)	12.0
39993 61	Paper stem, packed in books or otherwise	Mil. boxes of matches.	13	(S)	88.4	(X)	69.6
39993 00	Matches, n.s.k.	.....	(NA)	(X)	.3	(X)	-
39994 --	Candles:						
39994 11	Candles, including tapers	.....	78	(X)	160.3	(X)	100.8
39995 --	Lamp shades:						
39995 11	Lamp shades	.....	63	(X)	51.4	(X)	36.9
39996 --	Furs, dressed and dyed	.....	(NA)	(X)	76.2	(X)	42.3
39996 11	Furs, dressed and dyed	.....	23	(X)	25.9	(X)	31.4
39996 93	Receipts for dressing and dyeing furs done in same plant on materials owned by others	.....	17	(X)	46.2	(X)	10.9
39996 00	Furs, dressed and dyed, n.s.k.	.....	(NA)	(X)	4.1	(X)	-
39997 --	Umbrellas, parasols, and canes	.....	(NA)	(X)	36.0	(X)	37.8
39997 13	Umbrellas and parasols	.....	20	(X)	36.0	(X)	37.8
39997 15	Canes	.....	-				
39997 00	Umbrellas, parasols, and canes, n.s.k.	.....	(NA)			(X)	-
39999 --	Miscellaneous fabricated products, n.e.c.	.....	(NA)	(X)	1,086.3	(X)	621.6
39999 07	Hair clippers for human use, hand and electric	.....	4	(X)	17.4	(X)	25.7
39999 11	Barber and beauty shop furniture and equipment, including barber and beauty chairs	.....	11	(X)	27.4		
39999 13	Beauty and barber shop accessories, including hair curlers, pads, and wraps	.....	22	(X)	34.6	(X)	17.5
39999 24	Hair work, switches, toupees, and wigs	.....	12	(X)	18.2	(X)	8.0
39999 42	Tobacco pipes	Thousands	10	*9,880.1	14.6	9,361.0	16.9
39999 44	Cigar and cigarette lighters, except precious metal and electric	Millions	10	191.0	121.2	3.1	21.5
39999 51	Christmas tree ornaments and decorations, except glass and electrical	Millions	23	(S)	43.3	3,512.1	56.4
39999 98	Other miscellaneous fabricated products, n.e.c.	.....	317	(X)	722.3	(X)	446.0
39999 00	Other miscellaneous fabricated products, n.e.c., n.s.k.	.....	(NA)	(X)	87.3	(X)	29.6
39990 00	Miscellaneous fabricated products, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note)	.....	(NA)	(X)	429.4	(X)	196.5
39990 02	Miscellaneous fabricated products, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note)	.....	(NA)	(X)	184.8	(X)	121.0

Note: In 1977 Census of Manufactures, shipments data for establishments of small single-unit companies with up to 20 employees were estimated from administrative records data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002." In both 1977 and 1972 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (5 digits) followed by "00" or, in some cases, to appropriate product group code (4 digits) followed by "0 00."

- Represents zero. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. [r]Revised. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]Quantity and value reported by all producers of product, not just those with shipments of $100,000 or more.

[2]For some estahlishments, data have been estimated from central unit values, which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[3]Value reported by all producers of product, not just those with shipments of $100,000 or more.

[4]In 1977, in a new procedure, small establishments with more than 5 employees reported on short forms, which requested only product class totals. These data are included in the codes ending in "00." Thus, 1977 data for product codes (7 digits) may not be completely comparable with 1972 data.

[5]For 1977, product codes 39960 14 and 39960 25 were included with product codes 39960 41, 39960 51, 39960 62, and 39960 63 to avoid disclosing operations of individual companies.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
[illegible], BROOMS		
United States	83.0	60.5
Middle Atlanic Division:		
New York	2.9	CC
Pennsylvania	5.0	BB
East North Central Division:		
Ohio	6.1	(NA)
Illinois	16.6	CC
East South Central Division:		
Tennessee	2.2	AA
West South Central Division:		
Texas	4.1	2.3
Pacific Division:		
California	3.7	BB
39912, PAINT AND VARNISH BRUSHES AND ROLLERS		
United States	184.5	112.6
Middle Atlantic Division:		
New York	26.4	25.1
New Jersey	13.6	BB
Pacific Division:		
California	5.3	BB
39913, OTHER BRUSHES		
United States	309.5	186.4
New England Division:		
Massachusetts	31.8	36.1
Middle Atlantic Division:		
New York	34.3	27.3
New Jersey	13.6	10.6
Pennsylvania	8.6	5.5
East North Central Division:		
Ohio	44.2	25.1
Illinois	31.2	19.9
Michigan	17.5	BB
Wisconsin	10.3	5.3
South Atlantic Division:		
Florida	2.8	AA
Pacific Division:		
California	13.5	CC
39931, TUBING, FLUORESCENT AND INCANDESCENT BULB SIGNS.		
United States	349.8	198.7
New England Division:		
Massachusetts	5.9	4.1
Connecticut	2.8	(NA)
Middle Atlantic Division:		
New York	19.3	16.5
New Jersey	4.5	5.7
Pennsylvania	4.6	2.6
East North Central Division:		
Ohio	25.9	21.1
Indiana	10.8	7.6
Illinois	29.9	16.3
Michigan	4.3	2.6
Wisconsin	25.8	16.1
West North Central Division:		
Minnesota	11.3	2.7
Iowa	5.4	1.3
Missouri	7.7	2.6
Kansas	2.0	(NA)

Product class and geographic area	Value of product shipments	
	1977	1972
39931, TUBING, FLUORESCENT AND INCANDESCENT BULB SIGNS--Con.		
South Atlantic Division:		
Maryland	4.6	2.7
North Carolina	4.4	1.0
South Carolina	2.7	BB
Georgia	4.3	2.3
Florida	13.6	5.2
East South Central Division:		
Kentucky	5.3	(NA)
Tennessee	23.6	13.0
Alabama	2.7	1.1
West South Central Division:		
Texas	19.1	14.5
Mountain Division:		
Colorado	3.5	3.8
New Mexico	3.5	(NA)
Utah	4.0	CC
Pacific Division:		
Oregon	2.7	2.2
California	43.6	22.2
39932, NONELECTRIC SIGNS AND ADVERTISING DISPLAYS		
United States	615.6	445.9
New England Division:		
Massachusetts	18.8	11.2
Rhode Island	10.8	5.5
Connecticut	8.9	2.6
Middle Atlantic Division:		
New York	85.4	66.5
New Jersey	50.5	18.9
Pennsylvania	23.1	26.9
East North Central Division:		
Ohio	37.6	34.3
Indiana	10.5	4.5
Illinois	69.6	63.8
Michigan	36.6	21.9
Wisconsin	23.6	19.4
West North Central Division:		
Minnesota	9.1	7.8
Iowa	3.6	6.5
Missouri	17.0	13.4
Kansas	11.1	5.3
South Atlantic Division:		
Maryland	6.6	3.5
Virginia	5.2	CC
North Carolina	4.3	3.0
Georgia	4.7	7.3
Florida	9.0	4.7
East South Central Division:		
Kentucky	2.9	6.5
Tennessee	27.5	24.6
Alabama	11.2	3.7
West South Central Division:		
Arkansas	8.0	BB
Louisiana	2.1	(NA)
Oklahoma	4.8	4.3
Texas	26.0	9.5
Mountain Division:		
Colorado	3.1	1.9
Arizona	3.6	1.1
Pacific Division:		
Washington	5.1	BB
Oregon	3.5	3.5
California	49.3	46.7

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers by Geographic Area: 1977 and 1972—Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
39933, ADVERTISING SPECIALTIES		
United States	262.5	155.7
New England Division:		
Massachusetts	9.3	8.3
Rhode Island	5.5	BB
Connecticut	4.5	6.3
Middle Atlantic Division:		
New York	39.7	32.9
New Jersey	23.7	10.4
Pennsylvania	17.3	4.5
East North Central Division:		
Ohio	25.7	5.7
Indiana	2.7	BB
Illinois	34.1	11.3
Michigan	12.8	BB
Wisconsin	12.8	9.1
West North Central Division:		
Minnesota	11.6	CC
Missouri	8.8	12.2
South Atlantic Division:		
Virginia	5.6	BB
East South Central Division:		
Tennessee	8.6	4.5
West South Central Division:		
Texas	4.9	BB
Pacific Division:		
Washington	5.3	AA
California	14.2	9.7
39951, METAL CASKETS, COFFINS, LINED, TRIMMED (ADULT)		
United States	298.1	211.2
New England Division:		
Massachusetts	3.9	3.2
Middle Atlantic Division:		
New York	5.9	CC
New Jersey	3.0	AA
Pennsylvania	30.4	20.2
East North Central Division:		
Ohio	6.9	11.8
Indiana	72.6	GG
Illinois	35.3	17.7
Michigan	4.6	4.2
Wisconsin	4.7	BB
West North Central Division:		
Missouri	13.0	9.3
South Atlantic Division:		
North Carolina	3.3	3.5
East South Central Division:		
Tennessee	50.6	19.2
Alabama	2.8	2.3
West South Central Division:		
Texas	7.3	7.5
Pacific Division:		
California	5.3	5.7
39952, WOOD CASKETS AND COFFINS, LINED, TRIMMED (ADULT)		
United States	85.6	68.7
New England Division:		
Massachusetts	6.4	9.7
Middle Atlantic Division:		
New York	12.1	9.7
Pennsylvania	15.2	CC

Product class and geographic area	Value of product shipments	
	1977	1972
39952, WOOD CASKETS AND COFFINS, LINED, TRIMMED (ADULT)--Con.		
East North Central Division:		
Indiana	2.6	AA
Illinois	2.1	1.7
South Atlantic Division:		
North Carolina	5.2	3.9
West South Central Division:		
Texas	2.7	2.0
Pacific Division:		
California	5.9	6.7
39953, OTHER CASKETS AND COFFINS, AND METAL VAULTS		
United States	79.2	67.8
East North Central Division:		
Ohio	11.7	9.1
Indiana	21.8	17.8
East South Central Division:		
Tennessee	2.5	2.5
Alabama	8.6	2.7
Mississippi	3.5	(NA)
West South Central Division:		
Texas	2.3	2.8
Pacific Division:		
California	5.5	3.4
39991, CHEMICAL FIRE EXTINGUISHING EQUIPMENT AND PARTS		
United States	216.8	125.7
Middle Atlantic Division:		
New Jersey	41.7	38.0
39992, COIN-OPERATED AMUSEMENT MACHINES		
United States	242.2	91.1
East North Central Division:		
Illinois	183.2	GG
39993, MATCHES		
United States	105.5	81.6
East North Central Division:		
Illinois	12.9	12.5
39994, CANDLES		
United States	160.3	100.8
Middle Atlantic Division:		
New York	35.9	31.4
New Jersey	11.4	BB
West South Central Division:		
Texas	18.6	CC
Pacific Division:		
California	15.9	9.6
39995, LAMP SHADES		
United States	51.4	36.9
Middle Atlantic Division:		
New York	15.4	12.0
New Jersey	7.8	CC
East North Central Division:		
Illinois	8.3	6.4
Pacific Division:		
California	8.4	BB

See footnotes at end of table.

Table 6b. **Product Classes — Value of Shipments by All Producers by Geographic Area: 1977 and 1972** — Con.

(Millions of dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose operations of individual companies in 1977)

Product class and geographic area	Value of product shipments	
	1977	1972
39996, FURS, DRESSED AND DYED		
United States	76.2	42.3
Middle Atlantic Division:		
New York	64.5	30.0
New Jersey	3.2	AA
39997, UMBRELLAS, PARASOLS, AND CANES		
United States	36.0	37.8
Middle Atlantic Division:		
New York	23.3	14.9
39999, OTHER MISCELLANEOUS FABRICATED PRODUCTS, N.E.C.		
United States	1,086.3	621.6
New England Division:		
Massachusetts	99.1	33.5
Rhode Island	6.9	BB
Connecticut	69.3	17.5
Middle Atlantic Division:		
New York	97.0	89.2
New Jersey	108.2	49.8
Pennsylvania	189.4	124.5
East North Central Division:		
Ohio	27.4	18.6
Indiana	14.6	CC
Illinois	105.5	62.9
Michigan	34.1	BB
Wisconsin	19.0	13.7
39999, OTHER MISCELLANEOUS FABRICATED PRODUCTS, N.E.C.--Con.		
West North Central Division:		
Minnesota	8.8	8.8
Missouri	16.4	8.2
Kansas	4.1	AA
South Atlantic Division:		
Maryland	12.1	2.3
North Carolina	44.7	36.4
Georgia	11.8	CC
Florida	17.4	10.5
East South Central Division:		
Kentucky	2.2	EE
Tennessee	19.8	CC
Alabama	2.7	(NA)
West South Central Division:		
Louisiana	3.1	(NA)
Texas	23.6	5.9
Mountain Division:		
Colorado	4.9	CC
Arizona	2.2	2.2
Utah	2.5	(NA)
Pacific Division:		
Washington	9.5	1.8
California	65.2	45.5
Hawaii	2.9	2.7

Note: For 1972, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing operations of individual companies: AA--$1.0 to $1.9; BB--$2.0 to $4.9; CC--$5.0 to $9.9; EE--$10.0 to $19.9; FF--$20.0 to $49.9; GG--$50.0 or more.
(NA) Not available. N.E.C. Not elsewhere classified.

Table 6c. Product Classes—Value Shipped by All Producers: 1963, 1967, and 1972 to 1977

(Millions of dollars)

1977 product code	Product class	1977	1976[1]	1975[1]	1974[1]	1973[1]	1972	1967	1963
3991-	Brooms and brushes	620.8	521.0	456.7	468.7	440.9	391.8	295.1	247.7
39911	Brooms	83.0	(108.8)	(113.4)	98.6	74.6	60.5	37.5	38.0
39912	Paint and varnish brushes and rollers	184.5	158.3	142.2	140.7	127.5	112.6	88.6	73.6
39913	Other brushes	309.5	221.3	185.2	176.4	187.1	186.4	142.3	126.0
39910	Brooms and brushes, n.s.k	43.8	(32.6)	(15.9)	53.0	51.7	32.3	26.8	10.1
3993-	Signs and advertising displays	1,606.9	1,183.0	1,082.8	1,096.0	1,132.6	1,089.2	800.6	583.8
39931	Tubing, fluorescent and incandescent bulb signs	349.8	384.7	349.8	350.1	258.9	198.7	176.5	144.5
39932	Nonelectric signs and advertising displays	615.6	432.0	394.8	378.1	448.2	445.9	349.3	302.3
39933	Advertising specialties	262.5	244.7	222.1	196.9	161.7	155.7	115.0	83.7
39930	Signs and advertising displays, n.s.k	379.0	(121.6)	(116.1)	170.9	263.8	288.9	159.8	53.3
3995-	Burial caskets	494.8	442.6	439.4	431.9	404.8	387.9	288.0	267.4
39951	Metal caskets, coffins, lined, trimmed (adult)	298.1	279.7	279.2	276.6	226.4	211.2	133.7	123.6
39952	Wood caskets and coffins, lined, trimmed (adult)	85.6	(62.2)	(63.9)	65.2	71.3	68.7	59.8	67.3
39953	Other caskets and coffins, and metal vaults	79.2	80.0	83.9	69.7	66.4	67.8	(NA)	(NA)
39950	Burial caskets, n.s.k	31.9	(20.7)	(S)	(20.4)	(40.7)	40.2	25.8	12.4
39960	Floor and wall coverings	561.3	438.0	363.5	327.2	316.1	300.3	191.6	168.1
3999-	Manufacturing industries, n.e.c	2,589.0	2,047.1	1,748.5	1,661.8	1,458.6	1,455.3	922.4	694.0
39991	Chemical fire extinguishing equipment and parts	216.8	177.6	154.6	157.9	135.4	125.7	94.6	52.3
39992	Coin-operated amusement machines	242.2	147.3	123.6	111.6	90.9	91.1	47.7	30.0
39993	Matches	105.5	95.5	87.9	94.3	89.9	81.6	66.2	64.8
39994	Candles	160.3	129.2	107.2	122.7	114.2	100.8	55.1	43.7
39995	Lamp shades	51.4	(37.8)	(41.5)	43.3	42.8	36.9	27.4	35.9
39996	Furs, dressed and dyed	76.2	(52.8)	(52.5)	29.5	43.1	42.3	39.8	43.6
39997	Umbrellas, parasols, and canes	36.0	(19.3)	(25.6)	26.0	39.6	37.8	40.3	34.1
39999	Other miscellaneous fabricated products, n.e.c	1,086.3	1,237.7	1,036.5	929.9	607.8	621.6	390.5	327.6
39990	Manufacturing industries, n.e.c., n.s.k	614.2	(149.9)	(119.1)	146.6	(294.9)	317.5	160.9	62.0

(NA) Not available. n.e.c. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards.

[1]Figures are estimates derived from a representative sample of manufacturing establishments canvassed in annual survey of manufactures and, therefore, may differ from results that would be obtained from a complete canvass of all manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures volumes for this period. Figures in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data. Thus, at individual product class level, estimates may be of limited reliability; however, they may be combined with other product class totals into broader aggregates which are of acceptable reliability.

Table 7. Materials Consumed by Kind: 1977 and 1972

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Explanation of Terms, Cost of Materials, Parts, Containers, and Supplies Consumed)

1977 material code	Material	Unit of measure	1977 Quantity	1977 Delivered cost (million dollars)	1972[1] Quantity	1972[1] Delivered cost (million dollars)
	INDUSTRY 3993, SIGNS AND ADVERTISING DISPLAYS					
	Materials, parts, containers, and supplies		(X)	588.4	(X)	380.5
260001	Paper and paperboard products, except paperboard boxes and containers		(X)	34.9	(X)	29.0
265001	Paperboard boxes and containers		(X)	12.4	(X)	17.0
282104	Plastics resins	1,000 lbs	(S)	7.2	(X)	62.0
307903	Plastics sheets, rods, tubes and other shapes		(X)	56.2	(X)	
285101	Paints, varnishes, lacquers, and enamels		(X)	13.1	(X)	15.0
331002	Steel mill shapes and forms, except castings and forgings		(X)	36.6	(X)	59.0
335002	Nonferrous metal mill shapes and forms		(X)	33.1	(X)	24.0
361201	Specialty transformers and flourescent ballasts		(X)	18.2	(X)	25.0
970099	All other materials and components, parts, containers, and supplies consumed		(X)	142.2	(X)	149.5
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	234.5	(X)	

1977 material code	Material	Unit of measure	1977 Quantity[3]	1977 Delivered cost (million dollars)
	INDUSTRY 3995, BURIAL CASKETS[2]			
	Materials, parts, containers, and supplies		(X)	229.2
220123	Cotton, wool, manmade fiber fabrics, etc.		(X)	21.2
331001	Steel mill shapes and forms, except castings	Short tons	(S)	50.0
342902	Casket and casket shell hardware, metal		(X)	53.7
970099	All other materials and components, parts, containers, and supplies		(X)	58.8
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	45.5

1977 material code	Material	Unit of measure	1977 Quantity[3]	1977 Delivered cost (million dollars)	1972[1] Quantity	1972[1] Delivered cost (million dollars)
	INDUSTRY 3996, HARD SURFACE FLOOR COVERING					
	Materials, parts, containers, and supplies		(X)	276.9	(X)	126.3
149971	Asbestos, crude, including fiber	1,000 s. tons	(X)	[4]	(D)	(D)
207010	Vegetable oils, including crude and processed	Million lb	-	-	(D)	(D)
249941	Cork products		(X)	[4]	(X)	[5]
266111	Building paper and board		(X)	[4]	(X)	[5]
280023	Pigment, organic and inorganic	Million lb	*8.5	5.6	13.3	3.8
282104	Plastics resins consumed in the form of granules, powders, liquids, but excluding sheets, rods, tubes, and shapes		*224.1	76.7	(NA)	(NA)
282137	Vinyl and vinyl copolymer resins, all forms		(NA)	(NA)	188.4	28.0
282202	Synthetic rubber	Million lb	-	-	(X)	[5]
	Natural rubber:					
084913	Latex (dry solids content)	1,000 l. tons	(X)	[4]	(X)	[5]
084915	Dry		-	-	(X)	[5]
289102	Adhesives and sealants	1,000 l. tons	(X)	[4]	(X)	[5]
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets		-	-	(X)	[5]
331018	Tin plate, terne plate, and black plate	1,000 s. tons	-	-	(X)	[5]
970099	All other materials and components, parts, containers, and supplies		(X)	[4]193.0	(X)	[5]88.4
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	1.6	(X)	.6

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 1977 and 1972** – Con.

(Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see appendix A, Cost of materials)

1977 material code	Material	Unit of measure	1977 Quantity[1]	1977 Delivered cost (million dollars)	1972 Quantity	1972 Delivered cost (million dollars)
	INDUSTRY 3999, MANUFACTURING INDUSTRIES, N.E.C.					
	Materials, parts, containers, and supplies	.....	(X)	1,091.3	(X)	593.7
	Mill shapes and forms, except castings:					
331001	Carbon steel	1,000 s. tons	(S)	41.0	53.0	14.7
331020	Alloy steel		(S)	9.6	15.0	5.0
	Stainless steel:					
331033	Sheet and strip		(S)	13.8	4.7	6.5
331050	All other stainless steel mill shapes and forms	1,000 s. tons	7.8	2.3	(S)	1.0
335001	Aluminum and aluminum-base alloy	Million lb	32.9	28.1	(S)	5.6
335105	Copper and copper-base alloy		(S)	7.7	3.9	3.4
336200	Copper and copper-base alloy castings (rough and semifinished)	Million lb	(X)	([6])	1.4	2.9
307903	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	.....	(X)	31.1		
265001	Paperboard boxes and containers	.....	(X)	31.1		
242101	Rough and dressed lumber	Mil. bd. ft	(S)	22.8	(X)	280.5
970099	All other materials and components, parts, containers, and supplies	.....	(X)	[6]458.6		
971000	Materials, parts, containers, and supplies, n.s.k.[2]	.....	(X)	445.2	(X)	274.1

– Represents zero. (D) Withheld to avoid disclosing operations of individual companies. (NA) Not available. N.E.C. Not elsewhere classified. n.s.k. Not specified by kind. (S) Withheld because estimate did not meet publication standards. (X) Not applicable.

[1]From 1972 Census of Manufactures Supplementary Inquiry: Consumption of Materials, Parts, Containers, and Supplies during 1972 (Form MA-131).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form and establishments reporting on the short form that did not include a material inquiry.

[3]For some establishments, data have been estimated from central unit values, which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * indicates 10 to 19 percent estimated, ** indicates 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[4]For 1977, material codes 149971, 249941, 266111, 084913, and 289102 were included with material code 970099.

[5]For 1972, material codes 349941, 266111, 282104, 282202, 084913, 084915, 289102, 306902, and 331018 were included with material code 970099.

[6]For 1977, material code 336200 was included with material code 970099.

APPENDIX A. Explanation of Terms

This appendix is in two sections. Section 1 includes items for which all establishments that were mailed census of manufactures forms were requested to supply information. Section 2 covers supplementary items for which only establishments included in the annual survey of manufactures (ASM) sample were requested to supply information. Results of the supplementary ASM inquiries are included in this report. (See the Introduction, Manufacturing Universe and Census Report Forms, for a detailed explanation of the use of the ASM sample in a census of manufactures year and a description of the various report forms.)

SECTION 1. ITEMS COLLECTED ON ALL CENSUS OF MANUFACTURES REPORT FORMS

Employment and related items—The regular report forms requested separate information on production workers as of a payroll period for each quarter of the year and on other employees as of the payroll period which included the 12th of March.

All employees—This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period ending nearest the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the mid-month payroll periods of March, May, August, and November.

Production workers—This item includes workers (up through the working foreman level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and watchman services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Supervisory employees above the working foreman level are excluded from this category.

All other employees—This item covers nonproduction personnel of the manufacturing establishment, including those engaged in factory supervision above the working foreman level, sales (including driver salesmen), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical. Also included are employees on the payroll of the manufacturing establishment who are engaged in the construction of major additions or alterations to the plant and who are utilized as a separate work force.

In addition to reports sent to operating manufacturing establishments, information on employment during the payroll period which included March 12 and annual payrolls was also requested of administrative offices or auxiliary units (e.g., warehouses and research and development laboratories) of multiestablishment companies. However, these figures are not included in the totals for individual industries shown in this report. They are included in the Summary and Geographic Area reports and in the final bound volumes as a separate category.

Administrative office and auxiliary unit employees—As noted in the Introduction, companies were asked to file a special report form for any administrative office that was at a different location than the establishments managed or served, or at the same location as one of the establishments but not operated as an integral part of the establishment. Employees in **administrative offices** are concerned with the general management of multiestablishment companies, i.e., with the general supervision and control of two units or more, such as manufacturing plants, mines, sales branches, or stores. The functions of these employees may include (1) program planning, including sales research and coordination of purchasing, production, and distribution; (2) company purchasing, including general contracts and purchasing methods; (3) company financial policy and accounting, tax accounting, company sales and profits reports, and personnel accounting; (4) general engineering, including design of product machinery and equipment, and direction of engineering effort conducted at the individual operation locations; (5) direction of company personnel matters; and (6) legal and patent matters. **Auxiliaries** are separate storage facilities, garages, repair shops, purchasing offices, sales promotion offices, research and development organizations, etc., serving the plants or central management of the company.

The employment and payrolls of the administrative offices and auxiliaries serving manufacturing establishments are included in all tables at the "all industries" level. In tables where industry detail is shown, the data for these units appear as a separate industry group.

Payrolls—This item includes the gross earnings paid in the calendar year 1977 to all employees on the payroll of operating

manufacturing establishments. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations, but excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payroll of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Federal Statistical Policy and Standards. It should be noted that this definition does not include employers' Social Security contributions or other nonpayroll labor costs such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' supplemental labor costs, both those required by Federal and State laws and those incurred voluntarily or as part of collective bargaining agreements. (Supplemental labor costs are explained later in this appendix.)

As in the case of employment figures, the payrolls of separate administrative offices and auxiliary units of multi-establishment companies are included in all tables at the "all industries" level. In tables where industry detail is shown, the data for these units appear as a separate industry group.

Production worker hours—This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials—This item refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, regardless of whether what was consumed was purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (1) all raw materials, semifinished goods, parts, components, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (2) electric energy purchased; (3) fuels consumed for heat, power, or generating electricity; (4) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (5) products bought and resold in the same condition. (See discussion of duplication of data.)

Value of shipments—This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishments from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, i.e., including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead) and profit. (See discussion of duplication of data.)

Duplication in cost of materials and value of shipments—The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication, since the products of some industries are used as materials by others. With some important exceptions, such as for motor vehicles and parts, this duplication is not significant at the 4-digit industry level. However, it is significant at the 2-digit and 3-digit industry group level because these totals often include industries which represent successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the "Food" group and the addition of pulp mills to paper mills in the "Paper and Allied Products" group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication—the value of finished manufactures—tends to approximate two-thirds of the total value of products reported in the census of manufactures.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is then adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

"Value added" avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

New and used capital expenditures—For establishments in operation and establishments under construction but not yet in operation, manufacturers were asked to report their new expenditures for (1) permanent additions and major alterations to manufacturing establishments, and (2) machinery and equip-

ment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

The totals for new expenditures exclude that portion of expenditures leased from nonmanufacturing concerns, new facilities owned by the Federal Government but operated under contract by private companies, and plant and equipment furnished to the manufacturer by communities and nonprofit organizations. Also excluded are expenditures for used plant and equipment (although reported in the census), expenditures for land, and cost of maintenance and repairs charged as current operating expenses.

Manufacturers were also requested to report the value of all used buildings and equipment purchased during the year at the purchase price. For any equipment or structure transferred to the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. Furthermore, if the establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported under used capital expenditures.

Total expenditures for used plant and equipment is a universe figure; i.e., it is collected on all census forms. However, the breakdown of this figure between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form and is subject to sampling error (see table 3b, chapters 2 and 4).

End-of-year inventories—Respondents were asked to report their 1977 and 1976 end-of-year inventories at approximate current costs, if feasible; otherwise, at book values. Since different methods of inventory valuation are used (last-in-first-out (LIFO), first-in-first-out (FIFO), etc.), the definition of the value of inventories aggregate for all establishments in an industry is not precise. The change in inventory between years is of considerably greater significance.

In using inventory data by stage of fabrication for "all industries" and at the 2-digit industry level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by another establishment in a different industry. For example, the finished product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for individual industries, industry groups, and "all manufacturing" which are aggregates of figures reported by establishments in specified industries.

SECTION 2. ITEMS COLLECTED ONLY ON ASM REPORT FORM

Cost of purchased services—ASM establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery and communication services. Included in the cost of purchased services for the repair of building and machinery are payments made for all maintenance and repair work on buildings and equipment such as painting, roof repairs, replacing parts, and overhauling equipment. Such payments made to other establishments of the same company and for repair and maintenance of any leased property are also included. Extensive repairs or reconstruction that were capitalized are considered capital expenditures for used buildings and machinery and are, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract and incurred directly by an establishment in using its own work force are also excluded.

The response coverage ratio for each of the three types of purchased services listed above is a measure of the extent to which respondents reported for each item. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight; see appendix B) for those ASM establishments that reported the specific inquiry to the weighted total employment for all ASM establishments classified in the industry (see table 3c, chapters 2 and 4).

Rental payments—This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets, and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets were to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company, and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

Supplemental labor costs—Supplemental labor costs are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees. While the excluded items do benefit employees, and all or part of their cost is generally similar to the items covered in the annual survey labor costs statistics, accounting records do not generally provide reliable figures on net employee benefits of these types.

Beginning and end-of-year depreciable assets—The data encompass all fixed depreciable assets on the books of establishments at the beginning and at the end of the year. The values shown represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets, including inventories and intangible assets such as patent rights and royalties. Also excluded are land and depletable assets such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year, rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress. In addition, respondents were requested to make certain that assets at the beginning of the year plus new and used capital expenditures, less retirements, equaled assets at the end of the year.

New and used capital expenditures—The data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used capital expenditures are collected on all census forms. However, the breakdown between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. (See further explanation on capital expenditures in section 1.)

Breakdown of new capital expenditures for machinery and equipment—ASM establishments were requested to separate their capital expenditures for new machinery and equipment into (1) automobiles, trucks, etc., for highway use; (2) computers and peripheral data processing equipment; and (3) all other.

The category "automobiles, trucks, etc., for highway use" is intended to measure expenditures for vehicles designed for highway use which were acquired through a purchase of lease-purchase agreement. Vehicles normally operating off public highways—vehicles specifically designed to transport materials, property, or equipment on mining, construction, logging, and petroleum development projects—are excluded from this item.

The "not specified by kind" or n.s.k. item for expenditures for new machinery and buildings shown in table 3b represents the total machinery and equipment expenditures for establishments that did not break down their expenditures for the three specific categories. This means that for most industries the specific categories are understated.

Retirements—Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during 1977. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent was also requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

Depreciation charges—This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

APPENDIX B. Annual Survey of Manufactures

DESCRIPTION OF SURVEY SAMPLE

The annual survey of manufactures (ASM) is a survey based on a probability sample of about 70,000 manufacturing establishments selected from the census of manufactures universe. The current sample was selected from the manufacturing establishments included in the 1972 Census of Manufactures supplemented by Social Security Administration (SSA) files of manufacturers that opened after 1972. As in the earlier surveys, companies rather than establishments were defined as the sampling units. The selected companies were required to report for all of their plants, so that new establishments of existing companies also were represented in the sample.

All companies that had any manufacturing establishments with 250 employees or more in the 1972 census were included in the survey sample. These large companies, included with certainty, collectively account for more than two-thirds of total manufacturing employment.

Smaller companies were selected for the ASM in accordance with mathematical theory for optimum allocation of a sample. Their probabilities of inclusion ranged from 1.000 to 0.005 and were proportional to measures of size determined for each company. The measures of size of companies included in the 1972 Census of Manufactures depended directly upon each company's 1972 product class values and the historic variability of the year-to-year shipments of each product class. Roughly equivalent measures of size were assigned to the postcensus companies based on their industry codes and anticipated employment. (More specific information was not available for them in the SSA files used for sampling.)

To improve the reliability of the industry statistics for geographic areas, two features were incorporated into the sample design. First, some weight was given to the total value of shipments of each establishment relative to the total value of shipments for the State in which the establishment was located. Second, product class values for establishments in those States in which the total level of manufacturing was relatively low or was rapidly expanding (but for which the reliability of estimates was not expected to be much improved by the first sample design feature) were multiplied by factors ranging from 1.15 to 1.25 before measures of size were developed.

This method of assigning measures of size was used to maximize the precision (i.e., minimize the variance) of estimates of the year-to-year change in the value of product class shipments. Implicitly, it also gave weight to differences in employment, value added, and other industry statistics. These items are highly correlated with total value of shipments, and the assigned size measures varied directly with that total for each company.

The cost of collecting and processing data for a company is roughly proportional to the number of its establishment reports. To maximize the sample information obtained for a fixed total cost, each company's initial size measure was divided by the square root of its number of establishments. Sample selection probabilities then were obtained by multiplying each company's final measure of size by an overall sampling fraction calculated to yield the total expected sample size.

The sample selection procedure gave each company in the sampling frame an independent chance of selection. This method of selection differs from the method of systematic selection used in annual surveys prior to 1959. (With systematic selection, only certain combinations of companies can fall into the sample depending on the order in which they are arrayed at the time the sample is drawn.) Independent selection permits the rotation of the smaller companies into and out of a given sample panel without introducing a bias into the survey estimates.

ESTIMATING PROCEDURES

Most of the historical data compiled from the annual survey of manufactures sample were computed by the "difference estimate formula." For each item, linear estimates of the totals for both the most recent census of manufactures year and the ASM year were developed by multiplying each sample establishment's data by its sample weight (the reciprocal of its probability of selection) and summing the weighted values to publication levels. Then the difference between the two linear estimates was added to the complete (universe) total for the census year to produce the estimate for the ASM year. Estimates developed by the difference estimate formula usually are far more reliable than the comparable linear estimates developed from the current sample data alone.

The 1977 sample data were also developed using difference estimates. However, since the universe totals for the census year (either 1972 or 1977) were not known, a modification of the procedure described above was necessary. For each item, except purchased services and the breakdown of expenditures for new machinery and equipment (see further description in appendix A), linear estimates of the publication totals from the ASM sample were adjusted by the difference between imputed census totals and the corresponding ASM sample estimates of these imputed totals. These imputed totals are obtained by applying industry average ratios to control item values at the establishment level. For example, an imputed total beginning assets figure is obtained by multiplying each establishment's total value of shipments by the industry (4-digit SIC) average for the ratio of beginning assets to shipments.

QUALIFICATIONS OF THE DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sampled lists but otherwise conducted under essentially the same conditions as the actual sample survey. The sampling errors—the differences between the estimates obtained and the results theoretically obtainable from a comparable complete coverage survey—are unknown. Guides to the potential size of the sampling errors, however, are provided by the standard errors of the estimates.

The particular sample selected for the ASM is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretical, comparable, complete coverage values.

Estimates of the standard errors have been computed from the sample data for the current statistics, as well as the historical ASM data. They are presented in the form of relative standard errors, i.e., the standard errors divided by the estimated values to which they refer.

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals—ranges that would include the comparable complete coverage value for specified percentages of all the possible samples. The complete coverage value would be included in the range:

a. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
b. From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
c. From three standard errors below to three standard errors above the derived estimate for nearly all possible samples.

An inference that the comparable complete survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence with which the estimates from a particular sample would differ from complete coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown as 50,000 with an associated relative standard error of 2 percent, i.e., a standard error of 1,000 (2 percent of 50,000). Then there is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete coverage total.

In addition to the sample errors, the estimates are subject to various operational errors (errors of collection, reporting, coding, transcription, imputation for nonresponse, etc.). These errors would also occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected in the course of the Bureau's review of the data for reasonableness and consistency. When they were detected too late to correct, the data were suppressed or were specifically qualified in the tables. The small operational errors usually remain; to some extent, they are compensating in the aggregated totals shown.

As derived, the estimated standard errors include part of the effect of the operational errors. The total error, which depends upon the joint effect of the sampling and operation errors, is usually of the order of size indicated by the standard error or only moderately higher. For particular estimates, however, the total error may considerably exceed the standard errors shown.

The concept of complete coverage under the conditions prevailing for the annual surveys of manufactures is not identical to the complete coverage of the censuses of manufactures as conducted. Nearly all types of operational errors that affect the surveys also occur in the censuses. The surveys and the censuses, however, are conducted under quite different conditions, and operational errors can be controlled more tightly in the surveys than in the censuses. As a result, errors in many of the census figures are of the same order of size as the total errors in the corresponding annual survey estimates. The differences between the census and the survey operating conditions also disturb, to some degree, the comparability of the census and annual survey data.

Any figure shown in the tables in this publication having an associated standard error exceeding 15 percent may be of limited reliability. However, the figure may be combined with other totals, creating a broader aggregate, which may then be of acceptable reliability.

APPENDIX C. Industry Descriptions

This appendix contains descriptions of the 450 4-digit industries for which data were compiled and published in the 1977 Census of Manufactures. With two exceptions, the industries are the same as those described in the 1972 edition of the Standard Industrial Classification (SIC) Manual. SIC Industry 3572, Typewriters, was combined with Industry 3579, Office Machines, N.E.C., in the census tabulations and SIC Industry 3716, Motor Homes Produced on Purchased Chassis, was added

The industry titles and descriptions, in general, agree with those appearing in the SIC Manual, but the descriptions have been expanded, in some instances, to include references to additional products classified in other industries.

20 FOOD AND KINDRED PRODUCTS

This major group includes establishments manufacturing or processing foods and beverages for human consumption, and certain related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls.

201 MEAT PRODUCTS

2011 **Meatpacking Plants.**—Establishments primarily engaged in the slaughtering, for their own account or on a contract basis for the trade, of cattle, hogs, sheep, lambs, and calves for meat to be sold or to be used on the same premises in canning and curing, and in making sausage, lard and other products. Establishments primarily engaged in killing, dressing, and packing poultry, rabbits, and other small game are classified in industry 2016; and those primarily engaged in killing and processing horses and other nonfood animals are classified in industry 2047. Establishments primarily engaged in manufacturing sausages and meat specialties from purchased meats are classified in industry 2013; and establishments primarily engaged in canning meat for baby food are classified in industry 2032.

2013 **Sausages and Other Prepared Meat Products.**—Establishments primarily engaged in manufacturing sausages, cured meats, smoked meats, canned meats, frozen meats, natural sausage casings, and other prepared meats and meat specialties from purchased carcasses and other materials. Sausage kitchens and other prepared meat plants operated by packing houses as separate establishments are also included in this industry. Establishments primarily engaged in canning or otherwise processing poultry, rabbits, and other small game are classified in industries 2016 and 2017. Establishments primarily engaged in the cutting up and resale of purchased fresh carcasses are classified in trade industries. Establishments primarily engaged in canning meat for baby food are classified in industry 2032.

2016 **Poultry Dressing Plants.**—Establishments primarily engaged in slaughtering and dressing poultry for their own account or on a contract basis for the trade for meat to be sold or to be used on the same premises in further processing, including cooking, smoking, raw-boning, canning, freezing, and dehydrating. This industry also includes the killing, dressing, and packing of rabbits and other small game. Establishments primarily engaged in processing purchased carcasses are classified in industry 2017.

2017 **Poultry and Egg Processing.**—Establishments primarily engaged in the preparation of processed poultry products from purchased carcasses, including cooking, smoking, raw-boning, canning, freezing, and dehydrating, for their own account or on a contract basis for the trade; or in the drying, freezing, and breaking of eggs. The cleaning, oil treating, packing, and grading of eggs are classified in industry 5144. Establishments primarily engaged in the cutting up and resale of purchased fresh carcasses are classified in the trade industries.

202 DAIRY PRODUCTS

This group includes establishments primarily engaged in (1) manufacturing creamery butter, natural cheese, condensed and evaporated milk, ice cream and frozen desserts, and special dairy products such as processed cheese and malted milk and (2) processing (pasteurizing, homogenizing, vitaminizing, bottling) fluid milk and cream for wholesale or retail distribution. Independently operated milk receiving stations primarily engaged in the assembly and reshipment of bulk milk for the use of manufacturing or processing plants are classified in industry 5143.

2021 **Creamery Butter.**—Establishments primarily engaged in manufacturing creamery butter.

2022 **Cheese, Natural and Processed.**—Establishments primarily engaged in manufacturing all types of natural cheese (except cottage cheese—industry 2026), processed cheese, cheese foods, and cheese spreads.

2023 **Condensed and Evaporated Milk.**—Establishments primarily engaged in manufacturing condensed and evaporated milk and related products, including ice-cream mix and ice-milk mix made for sale as such, and dry milk products. Also included in the manufacture of nondairy-base cream substitutes and dietary supplements.

2024 **Ice Cream and Frozen Desserts.**—Establishments primarily engaged in manufacturing ice cream and other frozen desserts.

2026 **Fluid Milk.**—Establishments primarily engaged in processing (pasteurizing, homogenizing, vitaminizing, bottling) and distributing fluid milk and cream, and related products, including cottage cheese.

203 CANNED AND PRESERVED FRUITS AND VEGETABLES

2032 **Canned Specialties.**—Establishments primarily engaged in canning specialty products, such as baby foods, "native foods," health foods, and soups except seafood. Establishments primarily engaged in canning seafoods other than frozen are classified in industry 2091, frozen seafoods in industry 2092, and those primarily engaged in quick freezing canned specialties in industry 2038.

2033 **Canned Fruits, Vegetables, Preserves, Jams, and Jellies.**—Establishments primarily engaged in canning fruits and vegetables, and fruit and vegetable juices; and manufacturing catsup and similar tomato sauces, preserves, jams, and jellies. Establishments primarily engaged in canning seafoods (except frozen) are classified in industry 2091; and canned specialties, baby foods, and soups (except seafood) in industry 2032.

2034 **Dried and Dehydrated Fruits, Vegetables, and Soup Mixes.**—Establishments primarily engaged in sun drying or artificially dehydrating fruits and vegetables, or in manufacturing packaged soup mixes from dehydrated ingredients. Establishments primarily engaged in the grading and marketing of farm dried fruits, such as prunes and raisins, are classified in industry 5149.

2035 **Pickled Fruits and Vegetables, Vegetable Sauces and Seasonings, and Salad Dressings.**—Establishments primarily engaged in pickling and brining fruits and vegetables, and in manufacturing salad dressings, vegetable relishes, sauces, and seasonings. Establishments primarily engaged in manufacturing catsup and similar tomato sauces are classified in industry 2033, and those packing purchased pickles and olives in trade industries.

2037 **Frozen Fruits, Fruit Juices and Vegetables.**—Establishments primarily engaged in freezing and coldpacking (freezing) fruits, fruit juices, and vegetables.

2038 **Frozen Specialties.**—Establishments primarily engaged in freezing and coldpacking (freezing) food specialties such as frozen dinners and frozen pizza.

204 GRAIN MILL PRODUCTS

2041 **Flour and Other Grain Mill Products.**—Establishments primarily engaged in milling flour or meal from grain, except rice. The products of flour mills may be sold plain or in the form of prepared mixes or doughs for specific purposes. Establishments primarily engaged in manufacturing prepared flour mixes or doughs from purchased ingredients are classified in industry 2045, and rice milling in industry 2044.

2043 **Cereal Breakfast Foods.**—Establishments primarily engaged in manufacturing cereal breakfast foods and related preparations.

2044 **Rice Milling.**—Establishments primarily engaged in cleaning and polishing rice, and in manufacturing rice flour or meal. Other important products of this industry include brown rice, milled rice (including polished rice), rice polish, and rice bran.

2045 **Blended and Prepared Flour.**—Establishments primarily engaged in the preparation of blended flours and flour mixes or doughs from purchased flour. Establishments primarily engaged in milling flour from grain are classified in industry 2041.

2046 **Wet Corn Milling.**—Establishments primarily engaged in milling corn or sorghum grain (milo) by the wet process, and producing starch, sirup, oil, sugar, and byproducts such as gluten feed and meal. Establishments primarily engaged in manufacturing starch from other vegetable sources (potato, wheat, etc.) are also included. Establishments primarily engaged in manufacturing table sirups from corn sirup and other ingredients and those manufacturing starch-base dessert powders are classified in industry 2099.

2047 **Dog, Cat and Other Pet Food.**—Establishments primarily engaged in manufacturing dog, cat, and other pet food from cereal, meat, and other ingredients. These preparations may be canned, frozen, or dry. This industry also includes establishments slaughtering animals for pet food. Establishments primarily engaged in manufacturing feed for animals, other than pets, are classified in industry 2048.

2048 **Prepared Feeds and Feed Ingredients for Animals and Fowls, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing prepared feeds and feed ingredients and adjuncts, for animals and fowls, not elsewhere classified. This industry in-

cludes poultry and livestock feed and feed ingredients, such as alfalfa meal, feed supplements, feed concentrates, and feed premixes. Establishments primarily engaged in manufacturing pet foods are classified in industry 2047.

205 BAKERY PRODUCTS

2051 Bread and Other Bakery Products, Except Cookies and Crackers.—Establishments primarily engaged in manufacturing bread, cakes, and other "perishable" bakery products. Establishments manufacturing bakery products for sale primarily for home service delivery, or through one or more non-baking retail outlets, are included in this industry. Establishments primarily engaged in producing "dry" bakery products, such as biscuits, crackers, and cookies, are classified in industry 2052. Establishments producing bakery products primarily for direct sale on the premises to household consumers are classified in Retail Trade, industry 5462.

2052 Cookies and Crackers.—Establishments primarily engaged in manufacturing cookies, crackers, pretzels, and similar "dry" bakery products. Establishments primarily engaged in producing "perishable" bakery products are classified in industry 2051.

206 SUGAR AND CONFECTIONERY PRODUCTS

2061 Cane Sugar, Except Refining Only.—Establishments primarily engaged in manufacturing raw sugar, sirup, or finished (granulated or clarified) cane sugar from sugarcane. Establishments primarily engaged in refining sugar from purchased raw cane sirup or sugar sirups are classified in industry 2062.

2062 Cane Sugar Refining.—Establishments primarily engaged in refining purchased raw cane sugar and sugar sirup.

2063 Beet Sugar.—Establishments primarily engaged in manufacturing sugar from sugar beets.

2065 Candy and Other Confectionery Products.—Establishments primarily engaged in manufacturing candy, including chocolate candy, salted nuts, other confections, and related products. Establishments primarily engaged in manufacturing solid chocolate bars are classified in industry 2066 and chewing gum in industry 2067. Establishments primarily engaged in manufacturing confectionery for direct sale on the premises are classified in industry 5441, and those primarily engaged in shelling and roasting nuts are classified in industry 5145.

2066 Chocolate and Cocoa Products.—Establishments primarily engaged in shelling, roasting, and grinding cacao beans for the purpose of making chocolate liquor, from which cocoa powder and cocoa butter are derived, and in the further manufacture of solid chocolate bars and chocolate coatings. Establishments primarily engaged in manufacturing products, except candy, from purchased chocolate and cocoa are classified in industry 2099, and chocolate candy in industry 2065.

2067 Chewing Gum.—Establishments primarily engaged in manufacturing chewing gum or chewing gum base.

207 FATS AND OILS

2074 Cottonseed Oil Mills.—Establishments primarily engaged in manufacturing cottonseed oil and by-product cake, meal, and linters. Establishments primarily engaged in refining cottonseed oil into edible cooking oils are classified in industry 2079.

2075 Soybean Oil Mills.—Establishments primarily engaged in manufacturing soybean oil and byproduct cake and meal. Establishments primarily engaged in refining soybean oil into edible cooking oils are classified in industry 2079.

2076 Vegetable Oil Mills, Except Corn, Cottonseed, and Soybean.—Establishments primarily engaged in manufacturing vegetable oils and byproduct cake and meal, except corn, cottonseed, and soybean. Establishments primarily engaged in manufacturing corn oil and its byproducts are classified in industry 2046, those which are refining vegetable oils into edible cooking oils are classified in industry 2079, and those refining these oils for medicinal purposes in industry 2833.

2077 Animal and Marine Fats and Oils.—Establishments primarily engaged in manufacturing animal oils, including fish oil and other marine animal oils and fish and animal meal; and those rendering inedible grease and tallow from animal fat, bones, and meat scraps. Establishments primarily engaged in manufacturing lard and edible tallow and stearin are classified in group 201; those refining marine animal oils for medicinal purposes in industry 2833; and those manufacturing fatty acids in industry 2899.

2079 **Shortening, Table Oils, Margarine and Other Edible Fats and Oils, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing shortening, table oils, margarine, and other edible fats and oils, not elsewhere classified, by further processing of purchased animal and vegetable oils. Establishments primarily engaged in producing corn oil are classified in industry 2046.

208 BEVERAGES

2082 **Malt Beverages.**—Establishments primarily engaged in manufacturing all kinds of malt beverages. Establishments primarily engaged in bottling purchased malt beverages are classified in industry 5181.

2083 **Malt.**—Establishments primarily engaged in manufacturing malt or malt byproducts from barley or other grains.

2084 **Wines, Brandy, and Brandy Spirits.**—Establishments primarily engaged in manufacturing wines, brandy, and brandy spirits. This industry also includes bonded storerooms which are engaged in blending wines. Establishments primarily bottling purchased wines, brandy, and brandy spirits, but which do not manufacture wines and brandy, are classified in industry 5182.

2085 **Distilled, Rectified, and Blended Liquors.**—Establishments primarily engaged in manufacturing alcoholic liquors by distillation and rectification and in manufacturing cordials and alcoholic cocktails by blending processes or by mixing liquors and other ingredients. Establishments primarily engaged in manufacturing industrial alcohol are classified in industry 2869, and those only bottling purchased liquors in industry 5182.

2086 **Bottled and Canned Soft Drinks and Carbonated Waters.**—Establishments primarily engaged in manufacturing soft drinks (nonalcoholic beverages) and carbonated waters. Establishments primarily engaged in manufacturing fruit and vegetable juices are classified in group 203, fruit sirups for flavoring in industry 2087, and cider in industry 2099. Establishments primarily engaged in bottling natural spring waters are classified in industry 5149.

2087 **Flavoring Extracts and Flavoring Sirups, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing flavoring extracts, sirups, and fruit juices, not elsewhere classified, for soda fountain use or for the manufacture of soft drinks, and colors for bakers' and confectioners' use. Establishments primarily engaged in manufacturing chocolate sirup are classified in industry 2066 if from cacao beans and in industry 2099 if from purchased chocolate.

209 MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS

2091 **Canned and Cured Fish and Seafoods.**—Establishments primarily engaged in cooking and canning fish, shrimp, oysters, clams, crabs, and other seafoods, including soups; and those engaged in smoking, salting, drying, or otherwise curing fish for the trade. Establishments primarily engaged in shucking and packing fresh oysters in nonsealed containers, or in freezing and packaging fresh fish, are classified in industry 2092.

2092 **Fresh or Frozen Packaged Fish and Seafoods.**—Establishments primarily engaged in preparing fresh and raw or cooked frozen packaged fish and other seafood, including soups. This industry also includes establishments primarily engaged in the shucking and packing of fresh oysters in nonsealed containers.

2095 **Roasted Coffee.**—Establishments primarily engaged in roasting coffee and in manufacturing coffee concentrates and extracts in powdered, liquid, or frozen form, including freeze-dried.

2097 **Manufactured Ice.**—Establishments primarily engaged in manufacturing ice for sale. Ice plants operated by public utility companies are included in this industry when separate reports are available. When separate reports are not available, they should be classified in SIC Major Group 49. Establishments primarily engaged in manufacturing dry ice are classified in industry 2813.

2098 **Macaroni, Spaghetti, Vermicelli, and Noodles.**—Establishments primarily engaged in manufacturing dry macaroni, spaghetti, vermicelli, and noodles. Establishments primarily engaged in manufacturing canned macaroni, spaghetti, etc., are classified in industry 2032.

2099 **Food Preparations, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing prepared foods and miscellaneous food specialties, not elsewhere classified, such as baking powder, yeast, and other leavening compounds; chocolate and cocoa products, except confectionery, made from purchased materials; peanut butter; packaged tea including instant; ground spices; potato, corn, and other chips; and vinegar and cider.

21 TOBACCO MANUFACTURES

This major group includes establishments engaged in manufacturing cigarettes, cigars, smoking and chewing tobacco, and snuff, and in stemming and redrying tobacco. The manufacture of insecticides from tobacco byproducts is included in SIC Major Group 28.

211 CIGARETTES

2111 **Cigarettes.**—Establishments engaged in manufacturing cigarettes.

212 CIGARS

2121 **Cigars.**—Establishments engaged in manufacturing cigars. Retail stores producing cigars are classified in trade industries.

213 TOBACCO (CHEWING AND SMOKING) AND SNUFF

2131 **Tobacco (Chewing and Smoking) and Snuff.**—Establishments engaged in manufacturing smoking and chewing tobaccos, and snuff.

214 TOBACCO STEMMING AND REDRYING

2141 **Tobacco Stemming and Redrying.**—Establishments primarily engaged in the stemming and redrying of tobacco. Establishments which sell leaf tobacco as merchant wholesalers, agents, or brokers, and which may be also engaged in stemming tobacco, are classified in SIC Major Group 51. Leaf tobacco warehouses which may be also engaged in stemming tobacco are classified in SIC Major Group 42.

22 TEXTILE MILL PRODUCTS

This major group includes establishments engaged in performing any of the following operations: (1) Preparation of fiber and subsequent manufacturing yarn, thread, braids, twine, and cordage; (2) manufacturing broadwoven fabric, narrow woven fabric, knit fabric, and carpets and rugs from yarn; (3) dyeing and finishing fiber, yarn, fabric, and knit apparel; (4) coating, waterproofing, or otherwise treating fabric; (5) the integrated manufacture of knit apparel and other finished articles from yarn; and (6) the manufacture of felt goods, lace goods, nonwoven fabrics, and miscellaneous textiles.

This classification makes no distinction between the two types of organizations which operate in the textile industry: (1) The "integrated" mill which purchases materials, produces textiles and related articles within the establishment, and sells the finished products; and (2) the "contract" or "commission" mill which processes materials owned by others. Converters or other nonmanufacturing establishments which assign materials to contract mills for processing (other than knitting) are classified in nonmanufacturing industries; establishments which assign yarns to outside contractors or commission knitters for the production of knit products are classified in group 225.

221 BROADWOVEN FABRIC MILLS, COTTON

2211 **Broadwoven Fabric Mills, Cotton.**—Establishments primarily engaged in weaving fabrics over 12 inches in width, wholly or chiefly by weight of cotton. Establishments primarily engaged in weaving cotton carpets and rugs are classified in industry 2271; those tufting carpets and rugs in industry 2272; those making tire cord and fabric in industry 2296; and finishers of cotton broadwoven fabrics in industry 2261.

222 BROAD WOVEN FABRIC MILLS, MANMADE FIBER AND SILK

2221 **Broadwoven Fabric Mills, Manmade Fiber and Silk.**—Establishments primarily engaged in weaving fabrics over 12 inches in width, wholly or chiefly by weight of silk and manmade fibers, including glass. Establishments primarily engaged in weaving carpets and rugs from these fibers are classified in industry 2271; those tufting carpets and rugs from these fibers in industry 2272; those making tire cord and fabric in industry 2296; and finishers of manmade fiber and silk broadwoven goods in industry 2262.

223 BROADWOVEN FABRIC MILLS, WOOL (INCLUDING DYEING AND FINISHING)

2231 **Broadwoven Fabric Mills, Wool (Including Dyeing and Finishing).**—Establishments primarily engaged in

weaving fabrics over 12 inches in width, wholly or chiefly by weight of wool, mohair, or similar animal fibers; those dyeing and finishing all woven wool fabrics or dyeing wool, tops, or yarn; and those shrinking and sponging wool goods for the trade. Establishments primarily engaged in weaving wool carpets and rugs are classified in industry 2271, and those tufting wool carpets and rugs in industry 2272.

224 NARROW FABRICS AND OTHER SMALLWARES MILLS: COTTON, WOOL, SILK, AND MANMADE FIBER

2241 Narrow Fabrics and Other Smallwares Mills: Cotton, Wool, Silk, and Manmade Fiber.—Establishments primarily engaged in weaving or braiding fabrics 12 inches or narrower in width of cotton, wool, silk, and manmade fibers, including glass fibers. Establishments primarily engaged in producing fabric-covered elastic yarn or thread are also included in this industry.

225 KNITTING MILLS

This group includes three types of organizations which operate in the knitting mill industry: (1) The "integrated" mill which purchases materials, produces textiles and related articles within the establishment, and sells the finished products; (2) the "contract" or "commission" mill which processes materials owned by others; and (3) establishments commonly known as jobbers or converters of knit goods which perform the entrepreneurial functions of a manufacturing company, such as buying the raw material, designing and preparing samples, and assigning yarns to others for knitting products on their account.

2251 Women's Full Length and Knee Length Hosiery.—Establishments primarily engaged in knitting, dyeing, or finishing women's and misses' full length and knee length hosiery, both seamless and full-fashioned, and panty hose.

2252 Hosiery, Except Women's Full Length and Knee Length Hosiery.—Establishments primarily engaged in knitting, dyeing, or finishing hosiery except women's and misses' full length and knee length seamless and full-fashioned hosiery and panty hose.

2253 Knit Outerwear Mills.—Establishments primarily engaged in knitting outerwear from yarn or in manufacturing outerwear from knit fabric produced in the same establishment. Establishments primarily engaged in handknitting outerwear for the trade are included in this industry. Establishments primarily engaged in knitting gloves and mittens are classified in industry 2259, and those manufacturing outerwear from purchased knit fabric in SIC Major Group 23.

2254 Knit Underwear Mills.—Establishments primarily engaged in knitting underwear and nightwear from yarn or in manufacturing underwear and nightwear from knit fabric produced in the same establishment. Establishments primarily engaged in manufacturing underwear and nightwear from purchased knit fabric are classified in SIC Major Group 23.

2257 Circular Knit Fabric Mills.—Establishments primarily engaged in knitting circular (tubular) fabric or in dyeing or finishing circular (tubular) knit fabric. Establishments primarily engaged in knitting, dyeing, or finishing warp fabric are classified in industry 2258.

2258 Warp Knit Fabric Mills.—Establishments primarily engaged in knitting warp (flat) fabric or in dyeing or finishing warp (flat) knit fabric. Establishments primarily engaged in knitting, dyeing, or finishing circular fabric are classified in industry 2257.

2259 Knitting Mills, Not Elsewhere Classified.—Establishments primarily engaged in knitting gloves and other articles not elsewhere classified. Establishments primarily engaged in manufacturing woven or knit fabric gloves and mittens from purchased fabrics are classified in industry 2381.

226 DYEING AND FINISHING TEXTILES, EXCEPT WOOL FABRICS AND KNIT GOODS

2261 Finishers of Broadwoven Fabrics of Cotton.—Establishments primarily engaged in finishing purchased cotton broadwoven fabrics or finishing such fabrics on a commission basis. These finishing operations include bleaching, dyeing, printing (roller, screen, flock, plisse), and other mechanical finishing such as preshrinking, calendering, and napping. This industry also includes the shrinking and sponging of cloth for the trade, and chemical finishing for water repellency, fire resistance, and mildew proofing. Establishments primarily engaged in finishing wool broadwoven fabrics are classified in industry 2231; knit goods in group 225; and those coating or impregnating fabrics in industry 2295.

2262 Finishers of Broadwoven Fabrics of Manmade Fiber and Silk.—Establishments primarily engaged in finishing purchased manmade fiber and silk broadwoven fabrics or finishing such fabrics on a commission basis. These finishing operations include bleaching, dyeing, printing (roller, screen, flock, plisse), and other mechanical finishing such as preshrinking, calendering, and napping. Establishments primarily engaged in finishing wool broadwoven fabrics are classified in industry 2231; knit goods in group 225; and those coating or impregnating fabrics in industry 2295.

2269 Finishers of Textiles, Not Elsewhere Classified.—Establishments primarily engaged in dyeing and finishing textiles, not elsewhere classified, such as bleaching, dyeing, printing, and finishing of raw stock, yarn, braided goods, and narrow fabrics, except wool and knit fabrics. These establishments perform finishing operations on purchased textiles or on a commission basis.

227 FLOOR COVERING MILLS

2271 Woven Carpets and Rugs.—Establishments primarily engaged in weaving carpets and rugs from any textile yarn. Important products of this industry include Axminster, Wilton, velvet, and similar woven carpets and rugs; and woven automobile and aircraft floor coverings.

2272 Tufted Carpets and Rugs.—Establishments primarily engaged in tufting carpets and rugs from any textile fiber. Important products of this industry include tufted carpets, rugs, scatter rugs, and bathmats and bathmat sets except terry woven. Finishers of these products are also included in this industry.

2279 Carpets and Rugs, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing rugs, carpets, art squares, floor mattings, needle punch carpeting, and doormats and mattings from twisted paper, grasses, reeds, coir, sisal, jute, or rags. Establishments primarily engaged in manufacturing hard-surface floor coverings, except rubber and cork, are classified in industry 3996.

228 YARN AND THREAD MILLS

2281 Yarn Spinning Mills: Cotton, Manmade Fibers and Silk.—Establishments primarily engaged in spinning yarn wholly or chiefly by weight of cotton, manmade fibers, or silk. Establishments primarily engaged in dyeing or finishing purchased yarns or finishing yarns on a commission basis are classified in industry 2269.

2282 Yarn Texturizing, Throwing, Twisting, and Winding Mills: Cotton, Manmade Fibers and Silk.—Establishments primarily engaged in texturizing, throwing, twisting, winding or spooling yarn wholly or chiefly by weight of cotton, manmade fibers, or silk. Establishments primarily engaged in dyeing or finishing purchased yarns or finishing yarns on a commission basis are classified in industry 2269.

2283 Yarn Mills, Wool, Including Carpet and Rug Yarn.—Establishments primarily engaged in spinning, twisting, winding, or spooling yarn (including carpet and rug yarn) wholly or chiefly by weight of wool, mohair, or similar animal fibers. Establishments primarily engaged in dyeing or finishing purchased wool yarn or finishing wool yarn on a commission basis are classified in industry 2231.

2284 Thread Mills.—Establishments primarily engaged in manufacturing thread from natural or manmade fiber except flax (industry 2299) and wool (industry 2283). Important products of this industry include sewing, crochet, darning, embroidery, tatting, handknitting, and other handicraft threads.

229 MISCELLANEOUS TEXTILE GOODS

2291 Felt Goods, Except Woven Felts and Hats.—Establishments primarily engaged in manufacturing pressed felt, regardless of fiber, by means of heat, moisture, and pressure; and those making punched felt for rugs, cushions, and other products from hair, jute, wool, or other fibers by the needle loom process. Establishments primarily engaged in manufacturing woven wool felts and wool haircloth are classified in industry 2231, those manufacturing felt hats in group 235, and those manufacturing needle punch carpeting in industry 2279.

2292 Lace Goods.—Establishments primarily engaged in manufacturing lace machine products, and those primarily engaged in dyeing and finishing lace goods. Establishments primarily engaged in manufacturing Schiffli machine embroideries are classified in industry 2397. Establishments primarily engaged in manufacturing knitted lace and netting are classified in industry 2258.

2293 **Paddings and Upholstery Filling.**—Establishments primarily engaged in manufacturing batting, padding, wadding, and filling for upholstery, pillows, quilts, and apparel, from curled hair, cotton-mill waste, moss, hemp tow, flax tow, kapok, and related materials. Establishments primarily engaged in manufacturing wood excelsior pads and wrappers are classified in industry 2429.

2294 **Processed Waste and Recovered Fibers and Flock.**—Establishments primarily engaged in processing textile mill waste for spinning, padding, batting, or other uses; in recovering textile fibers from clippings and rags; in cutting flock from waste, recovered fibers, or new fiber stock; and in manufacturing oakum and twisted jute packing. Establishments primarily engaged in cleaning and sorting wiping rags or waste are classified in industry 5093.

2295 **Coated Fabrics, Not Rubberized.**—Establishments primarily engaged in manufacturing coated and impregnated textiles and in the special finishing of textiles, such as varnishing and waxing. Establishments primarily engaged in rubberizing purchased fabrics are classified in industry 3069, and those primarily engaged in dyeing and finishing textiles in group 226.

2296 **Tire Cord and Fabric.**—Establishments primarily engaged in manufacturing cord and fabric for use in reinforcing rubber tires, industrial belting, fuel cells, and similar uses.

2297 **Nonwoven Fabrics.**—Establishments primarily engaged in manufacturing nonwoven fabrics (by bonding and/or interlocking of fibers) by mechanical, chemical, thermal, or solvent means or by combinations thereof. Establishments primarily engaged in producing fabrics by the wool felting process are classified in other industries in this major group.

2298 **Cordage and Twine.**—Establishments primarily engaged in manufacturing rope, cable, cordage, twine, and related products from abaca (Manila), sisal, henequen, hemp, cotton, paper, jute, flax, manmade fibers including glass, and other fibers.

2299 **Textile Goods, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing linen goods, jute goods except felt, and other textile goods not elsewhere classified. Establishments primarily engaged in processing textile fibers to prepare them for spinning, such as wool scouring and carbonizing and combing and converting tow to top, are also classified here. Establishments primarily engaged in manufacturing woven felts are classified in industry 2231, nonwoven felts in industry 2291, nonwoven textiles in industry 2297, and cordage and twine in industry 2298.

23 APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS

This major group, known as the cutting-up and needle trades, includes establishments producing clothing and fabricating products by cutting and sewing purchased woven or knit textile fabrics and related materials such as leather, rubberized fabrics, plastics, and furs.

Included in the apparel industries are three types of establishments: (1) The "regular" or inside factories, (2) contract factories, and (3) apparel jobbers. The regular factories perform all of the usual manufacturing functions within their own plant; the contract factories manufacture apparel from materials owned by others; and apparel jobbers perform the entrepreneurial functions of a manufacturing company, such as buying raw materials, designing and preparing samples, arranging for the manufacture of the garments from their materials, and selling of the finished apparel.

Custom tailors and dressmakers not operating on a factory basis are classified in industry 5699; establishments which purchase and resell finished garments but do not perform the functions of the apparel jobbers are classified in group 513.

231 MEN'S, YOUTHS', AND BOYS' SUITS, COATS, AND OVERCOATS

2311 **Men's, Youths', and Boys' Suits, Coats, and Overcoats.**—Establishments primarily engaged in manufacturing men's, youths', and boys' tailored suits, coats, and overcoats. Establishments primarily engaged in manufacturing uniforms (except athletic uniforms) are also included in this industry. Establishments primarily engaged in manufacturing men's work garments are classified in industry 2328.

232 MEN'S, YOUTHS', AND BOYS' FURNISHINGS, WORK CLOTHING, AND ALLIED GARMENTS

2321 **Men's, Youths', and Boys' Shirts (Except Work Shirts) and Nightwear.**—Establishments primarily

engaged in manufacturing men's, youths', and boys' shirts (including polo and sports shirts) and nightwear, cut and sewed from purchased woven or knit fabric. Establishments primarily engaged in manufacturing work shirts are classified in industry 2328. Knitting mills primarily engaged in manufacturing nightwear are classified in industry 2254, and outerwear in industry 2253.

2322 **Men's, Youths', and Boys' Underwear.**—Establishments primarily engaged in manufacturing men's, youths', and boys' underwear, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing underwear are classified in industry 2254.

2323 **Men's, Youths', and Boys' Neckwear.**—Establishments primarily engaged in manufacturing men's, youths', and boys' neckties, scarfs, and mufflers, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing neckties, scarfs, and mufflers are classified in industry 2253.

2327 **Men's, Youths', and Boys' Separate Trousers.**—Establishments primarily engaged in manufacturing men's, youths', and boys' separate trousers and slacks. Establishments primarily engaged in manufacturing complete suits are classified in industry 2311, and work pants and jeans in industry 2328.

2328 **Men's, Youths', and Boys' Work Clothing.**—Establishments primarily engaged in manufacturing men's, youths', and boys' work shirts, pants, jeans, and other work clothing and washable service apparel.

2329 **Men's, Youths', and Boys' Clothing, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing men's, youths', and boys' clothing not elsewhere classified. Establishments primarily engaged in manufacturing polo and sport shirts from purchased woven or knit materials are classified in industry 2321; separate trousers in industry 2327; work clothing in industry 2328; and leather and sheep lined garments in industry 2386. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

233 WOMEN'S, MISSES', AND JUNIORS' OUTERWEAR

2331 **Women's, Misses', and Juniors' Blouses, Waists, and Shirts.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' blouses, waists, and shirts. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253. Establishments primarily engaged in manufacturing girls', children's, and infants' blouses, waists, and shirts are classified in industry 2361.

2335 **Women's, Misses', and Juniors' Dresses.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' dresses, including ensemble dresses and pants dresses, whether sold by the piece or by the dozen. Establishments primarily engaged in manufacturing girls', children's, and infants' dresses are classified in industry 2361.

2337 **Women's, Misses', and Juniors' Suits, Skirts, and Coats.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' suits, pantsuits, skirts, and coats except furcoats and raincoats. These garments are generally tailored and usually lined. Establishments primarily engaged in manufacturing fur garments are classified in industry 2371, raincoats in industry 2385, and knitting mills primarily engaged in manufacturing knit outerwear in industry 2253.

2339 **Women's, Misses', and Juniors' Outerwear, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing women's, misses', and juniors' outerwear, not elsewhere classified, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

234 WOMEN'S, MISSES', CHILDREN'S, AND INFANTS' UNDERGARMENTS

2341 **Women's, Misses', Children's, and Infants' Underwear and Nightwear.**—Establishments primarily engaged in manufacturing women's, misses', children's, and infants' underwear and nightwear, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing underwear and nightwear are classified in industry 2254.

2342 **Brassieres, Girdles, and Allied Garments.**—Establishments primarily engaged in manufacturing brassieres, girdles, corsets, corset accessories, and allied garments. Establishments primarily engaged in manufacturing surgical and orthopedic appliances are classified in industry 3842.

235 HATS, CAPS, AND MILLINERY

2351 Millinery.—Establishments primarily engaged in manufacturing women's, misses', children's, and infants' millinery. Establishments primarily engaged in manufacturing millinery braid and trimmings are classified in industry 2396.

2352 Hats and Caps, Except Millinery.—Establishments primarily engaged in manufacturing hats and caps (except millinery) and all hat bodies. Knitting mills primarily engaged in manufacturing caps are classified in industry 2253.

236 GIRLS', CHILDREN'S, AND INFANTS' OUTERWEAR

2361 Girls', Children's, and Infants' Dresses, Blouses, Waists, and Shirts.—Establishments primarily engaged in manufacturing girls', children's, and infants' dresses, blouses, waists, and shirts, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

2363 Girls', Children's, and Infants' Coats and Suits.—Establishments primarily engaged in manufacturing girls', children's, and infants' coats and suits, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

2369 Girls', Children's, and Infants' Outerwear, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing girls', children's, and infants' outerwear, not elsewhere classified, cut and sewed from purchased woven or knit fabric. Knitting mills primarily engaged in manufacturing outerwear are classified in industry 2253.

237 FUR GOODS

2371 Fur Goods.—Establishments primarily engaged in manufacturing furcoats, and other garments, accessories, and trimmings made of fur. Establishments primarily engaged in manufacturing sheep lined clothing are classified in industry 2386, and those engaged in dyeing and dressing of furs in industry 3999.

238 MISCELLANEOUS APPAREL AND ACCESSORIES

2381 Dress and Work Gloves, Except Knit and All-Leather.—Establishments primarily engaged in manufacturing dress, semidress, and work gloves and mittens, cut and sewed from purchased woven or knit fabric, or these materials combined with leather or plastic. Knitting mills primarily engaged in manufacturing gloves and mittens are classified in industry 2259, establishments primarily engaged in manufacturing leather gloves in industry 3151, those manufacturing rubber gloves in industry 3069, and plastic gloves in industry 3079.

2384 Robes and Dressing Gowns.—Establishments primarily engaged in manufacturing men's and women's robes and dressing gowns.

2385 Raincoats and Other Waterproof Outer Garments.—Establishments primarily engaged in manufacturing raincoats from purchased rubberized fabrics and other waterproof outer garments made from such material as pliofilm and cellophane. Establishments primarily engaged in manufacturing oiled fabric work garments are classified in industry 2328, and those manufacturing vulcanized rubber garments and garments made from rubberized fabrics produced in the same establishment are classified in industry 3069.

2386 Leather and Sheep Lined Clothing.—Establishments primarily engaged in manufacturing leather and sheep lined garments. Establishments primarily engaged in manufacturing leather gloves and mittens are classified in industry 3151, and fur garments in industry 2371.

2387 Apparel Belts.—Establishments primarily engaged in manufacturing men's and women's apparel belts, regardless of material.

2389 Apparel and Accessories, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing suspenders, garters, handkerchiefs, and other apparel, not elsewhere classified, such as academic caps and gowns, vestments, and theatrical costumes.

239 MISCELLANEOUS FABRICATED TEXTILE PRODUCTS

2391 Curtains and Draperies.—Establishments primarily engaged in manufacturing curtains and draperies from

purchased materials. Establishments primarily engaged in manufacturing lace curtains on lace machines are classified in industry 2292.

2392 **Housefurnishings, Except Curtains and Draperies.**—Establishments primarily engaged in manufacturing housefurnishings, such as blankets, bedspreads, sheets, tablecloths, and towels from purchased materials. Establishments primarily engaged in manufacturing curtains and draperies are classified in industry 2391. Establishments producing housefurnishings primarily of fabric woven at the same establishment are classified according to fiber in industries 2211, 2221, or 2231.

2393 **Textile Bags.**—Establishments primarily engaged in manufacturing shipping and other industrial bags from purchased fabric. Establishments primarily engaged in manufacturing plastic bags are classified in industry 2643; laundry, wardrobe, shoe, and other textile housefurnishing bags in industry 2392; and luggage in industry 3161.

2394 **Canvas and Related Products.**—Establishments primarily engaged in manufacturing awnings, tents, and related products from purchased fabric. Establishments primarily engaged in manufacturing canvas bags are classified in industry 2393.

2395 **Pleating, Decorative and Novelty Stitching, and Tucking for the Trade.**—Establishments primarily engaged in pleating, decorative and novelty stitching, and tucking for the trade. Establishments primarily engaged in performing similar services for individuals are classified in service industries. Establishments primarily engaged in manufacturing trimmings are classifled in industry 2396.

2396 **Automotive Trimmings, Apparel Findings, and Related Products.**—Establishments primarily engaged in manufacturing automotive trimmings and apparel findings and related products.

2397 **Schiffli Machine Embroideries.**—Establishments primarily engaged in manufacturing Schiffli machine embroideries.

2399 **Fabricated Textile Products, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing fabricated textile products not elsewhere classified.

24 LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE

This major group includes logging camps engaged in cutting timber and pulpwood; merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood mills and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or wood substitutes. Certain types of establishments producing wood products are classified elsewhere. For example, furniture and office and store fixtures are classified in SIC Major Group 25; musical instruments, toys, playground equipment, and caskets in SIC Major Group 39. Woodworking in connection with construction in the nature of reconditioning and repair or performed to individual order, is classified in nonmanufacturing industries.

241 LOGGING CAMPS AND LOGGING CONTRACTORS

2411 **Logging Camps and Logging Contractors.**—Logging camps and logging contractors primarily engaged in cutting timber and in producing rough, round, hewn, or riven primary forest or wood raw materials. Independent contractors engaged in estimating or trucking timber, but who perform no cutting operations, are classified in nonmanufacturing industries. Logging and woods operations conducted in combination with sawmills, pulpmills, or other converting establishments, and not separately reported, are classified in their respective industry groups; namely, with sawmills in SIC group 242, veneer and plywood mills in SIC group 243, pulpmills in SIC Major Group 26, and charcoal and wood distillation plants in SIC group 286. Establishments primarily engaged in the collection of bark, sap, gum, and other forest byproducts are classified in SIC Major Group 08.

242 SAWMILLS AND PLANING MILLS

2421 **Sawmills and Planing Mills, General.**—Establishments primarily engaged in sawing rough lumber and timber from logs and bolts, or resawing cants and flitches into lumber, including box lumber and softwood cut stock; planing mills combined with sawmills; and separately operated planing mills which are engaged primarily in producing surfaced

lumber and standard workings or patterns of lumber. This industry includes establishments primarily engaged in sawing lath and railroad ties and in producing tobacco hogshead stock, wood chips, and snow fence lath. Establishments primarily engaged in manufacturing box shook or boxes are classified in SIC group 244; sash, doors, wood molding, window and door frames, and other fabricated millwork in SIC group 243; and hardwood dimension and flooring in industry 2426. Logging camps combined with sawmills, when not separately reported, are included in this industry.

2426 **Hardwood Dimension and Flooring Mills.**—Establishments primarily engaged in manufacturing hardwood dimension lumber and workings therefrom; other hardwood dimension, semifabricated or ready for assembly; hardwood flooring; and wood frames for household furniture. Establishments primarily engaged in manufacturing stairwork, molding, and trim are classified in industry 2431; and those manufacturing textile machinery bobbins, picker sticks, and shuttles in industry 3552.

2429 **Special Product Sawmills, Not Elsewhere Classified.**—Mills primarily engaged in manufacturing excelsior, wood shingles, and cooperage stock; and in sawing special products not elsewhere classified.

243 MILLWORK, VENEER, PLYWOOD, AND STRUCTURAL WOOD MEMBERS

2431 **Millwork.**—Establishments primarily engaged in manufacturing fabricated millwork. Planing mills primarily engaged in producing millwork are included in this industry, but planing mills primarily producing standard workings or patterns of lumber are classified in industry 2421. Establishments primarily manufacturing wood kitchen cabinets and bathroom vanities are classified in industry 2434.

2434 **Wood Kitchen Cabinets.**—Establishments primarily engaged in manufacturing wood kitchen cabinets and wood bathroom vanities.

2435 **Hardwood Veneer and Plywood.**—Establishments primarily engaged in producing commercial hardwood veneer, either face or technical, and those primarily engaged in manufacturing commercial plywood or prefinished hardwood plywood. This includes nonwood backed or faced veneer and nonwood faced plywood from veneer produced in the same establishment or from purchased veneer. Establishments primarily engaged in the production of veneer which is used in the same establishment for the manufacture of end products such as fruit and vegetable baskets and wood boxes are classified in industries 2441 and 2449.

2436 **Softwood Veneer and Plywood.**—Establishments primarily engaged in producing commercial softwood veneer and plywood from veneer produced in the same establishment or from purchased veneer. Establishments primarily engaged in producing commercial hardwood veneer and plywood are classified in industry 2435. Establishments primarily engaged in the production of veneer which is used in the same establishment for the manufacture of end products such as fruit and vegetable baskets and wood boxes are classified in industries 2441 and 2449.

2439 **Structural Wood Members, Not Elsewhere Classified.**—Establishments primarily engaged in producing laminated or fabricated trusses, arches, and other structural members of lumber. Establishments primarily engaged in fabrication on the site of construction are classified in Division C, Construction. Establishments primarily engaged in producing prefabricated wooden buildings, sections, and panels are classified in industry 2452.

244 WOOD CONTAINERS

2441 **Nailed and Lock Corner Wood Boxes and Shook.**—Establishments primarily engaged in manufacturing nailed and lock corner wood boxes (lumber or plywood) and those which also may produce shook for nailed and lock corner boxes.

2448 **Wood Pallets and Skids.**—Establishments primarily engaged in manufacturing wood and wood-metal combination pallets and skids.

2449 **Wood Containers, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing wood containers, not elsewhere classified, such as cooperage, wirebound boxes and crates, and other veneer and plywood containers. Establishments primarily engaged in manufacturing tobacco hogshead stock are classified in industry 2421, and those manufacturing cooperage stock in industry 2429.

245 WOOD BUILDINGS AND MOBILE HOMES

2451 Mobile Homes.—Establishments primarily engaged in manufacturing mobile homes. These mobile homes are generally over 35 feet long, at least 8 feet wide, do not have facilities for storage of water or waste, and are equipped with wheels. These products may also have nonresidential uses such as classrooms or offices. Trailers that are generally 35 feet long or less, 8 feet wide or less, and with self-contained facilities are classified in industry 3792. Portable buildings not equipped with wheels are classified in industry 2452.

2452 Prefabricated Wood Buildings and Components.—Establishments primarily engaged in manufacturing prefabricated wood buildings, sections, and panels. Establishments primarily engaged in fabricating buildings on the site of construction are classified in Division C, Construction.

249 MISCELLANEOUS WOOD PRODUCTS

2491 Wood Preserving.—Establishments primarily engaged in treating wood, sawed or planed in other establishments, with creosote or other preservatives to prevent decay and to protect against fire and insects. This industry also includes the cutting, treating, and selling of poles, posts, and piling, but establishments primarily engaged in manufacturing other wood products, which they may also treat with preservatives, are not included.

2492 Particleboard.—Establishments primarily engaged in manufacturing wood panel products from small wood particles. This includes preparation of small particles of wood, drying, mixing with a synthetic resin binder, and compressing. Pressing may take place in hydraulic presses with heated platens or by extrusion.

2499 Wood Products, Not Elsewhere Classified.—Establishments primarily engaged in turning and shaping wood and manufacturing miscellaneous wood products, not elsewhere classified, from rattan, reed, splint, straw, veneer, veneer strips, wicker, and willow. This industry also includes establishments manufacturing lasts and related products, cork products, hardboard, and wood or metal mirror and picture frames. Establishments primarily engaged in manufacturing particleboard are classified in industry 2492, and those manufacturing pallets and skids in industry 2448.

25 FURNITURE AND FIXTURES

This major group includes establishments engaged in manufacturing household, office, public building, and restaurant furniture; and office and store fixtures. Establishments primarily engaged in the production of millwork are classified in industry 2431; wood kitchen cabinets in industry 2434; cut stone and concrete furniture in SIC Major Group 32; laboratory and hospital furniture in SIC Major Group 38; beauty and barber shop furniture in SIC Major Group 39; and woodworking to individual order or in the nature of reconditioning and repair in nonmanufacturing industries.

251 HOUSEHOLD FURNITURE

2511 Wood Household Furniture, Except Upholstered.—Establishments primarily engaged in manufacturing wood household furniture commonly used in dwellings. This industry also includes establishments manufacturing camp furniture. Establishments primarily engaged in manufacturing upholstered furniture are classified in industry 2512; reed and rattan furniture in industry 2519; television, radio, phonograph, and sewing machine cabinets in industry 2517; and kitchen cabinets and bathroom vanities in industry 2434.

2512 Wood Household Furniture, Upholstered.—Establishments primarily engaged in manufacturing upholstered furniture on wood frames. Shops primarily engaged in reupholstering furniture, or upholstering frames to individual order, are classified in nonmanufacturing industries. Establishments primarily engaged in manufacturing dual-purpose sleep furniture, such as studio couches, sofa beds, and chair beds, are classified in industry 2515, regardless of the material used in the frame. Establishments primarily engaged in manufacturing wood frames for upholstered furniture are classified in industry 2426.

2514 Metal Household Furniture.—Establishments primarily engaged in manufacturing padded or plain metal household furniture of a type commonly used in dwellings. Establishments primarily engaged in manufacturing dual-purpose sleep furniture, such as studio couches, sofa beds, and chair beds, are classified in industry 2515, regardless of the material used in the frame.

2515 Mattresses and Bedsprings.—Establishments primarily engaged in manufacturing innerspring mattresses, box spring mattresses, and noninnerspring mattresses containing felt, form rubber, urethane, hair, or any other filling material; and assembled wire springs (fabric, coil, or box) for use on beds, couches, and cots. This industry also includes establishments primarily engaged in manufacturing dual-purpose sleep furniture, such as studio couches, sofa beds, and chair beds, regardless of the material used in the frame. Establishments primarily engaged in manufacturing automobile seats and backs are classified in industry 2531; individual wire springs in industry 3495; and paddings and upholstery filling in industry 2293.

2517 Wood Television, Radio, Phonograph, and Sewing Machine Cabinets.—Establishments primarily engaged in manufacturing wood cabinets for radios, television sets, phonographs, and sewing machines.

2519 Household Furniture, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing reed, rattan, and other wicker furniture, plastics and fiberglass household furniture and cabinets, and household furniture not elsewhere classified.

252 OFFICE FURNITURE

2521 Wood Office Furniture.—Establishments primarily engaged in manufacturing wood office furniture, whether padded, upholstered, or plain.

2522 Metal Office Furniture.—Establishments primarily engaged in manufacturing metal office furniture, whether padded or plain. Establishments primarily engaged in manufacturing safes and vaults are classified in industry 3499.

253 PUBLIC BUILDING AND RELATED FURNITURE

2531 Public Building and Related Furniture.—Establishments primarily engaged in manufacturing furniture for schools, theaters, assembly halls, churches, and libraries. Establishments primarily engaged in manufacturing seats for public conveyances, as well as seats for automobiles and aircraft, are included in this industry. Establishments primarily engaged in manufacturing stone furniture are classified in industry 3281, and concrete furniture in industry 3272.

254 PARTITIONS, SHELVING, LOCKERS, AND OFFICE AND STORE FIXTURES

2541 Wood Partitions, Shelving, Lockers, and Office and Store Fixtures.—Establishments primarily engaged in manufacturing wood shelving, lockers, office and store fixtures, prefabricated partitions, plastic laminated fixture tops, and related fabricated products. Establishments primarily engaged in manufacturing refrigerated cabinets, show cases, and display cases are classified in industry 3585, and safes and vaults in industry 3499.

2542 Metal Partitions, Shelving, Lockers, and Office and Store Fixtures.—Establishments primarily engaged in manufacturing metal shelving, storage racks, lockers, office and store fixtures, prefabricated partitions, and related fabricated products. Establishments primarily engaged in manufacturing refrigerated cabinets, show cases, and display cases are classified in industry 3585, and safes and vaults in industry 3499.

259 MISCELLANEOUS FURNITURE AND FIXTURES

2591 Drapery Hardware and Window Blinds and Shades.—Establishments primarily engaged in manufacturing curtain and drapery rods, poles, and fixtures; and venetian blinds and other window blinds and shades, regardless of the materials used, except canvas shades and awnings (industry 2394).

2599 Furniture and Fixtures, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing furniture and fixtures, not elsewhere classified, including furniture specially designed for use in restaurants, bars, cafeterias, bowling establishments, and ships.

26 PAPER AND ALLIED PRODUCTS

This major group includes the manufacture of pulps from wood and other cellulose fibers, and from rags; the manufacture of paper and paperboard; and the manufacture of paper and paperboard into converted products such as paper coated off the paper machine, paper bags, paper boxes and envelopes. Certain types of converted paper products are classified elsewhere, such as abrasive paper in industry 3291, carbon paper in industry 3955, and photosensitized and blueprint paper in industry 3861.

261 PULPMILLS

2611 Pulpmills.—Establishments primarily engaged in manufacturing pulp from wood or from other materials such as rags, linters, wastepaper, and straw. Logging camps operated by pulpmills, and not separately reported, are also included in this industry. Establishments primarily engaged in cutting pulpwood are classified in industry 2411; and pulpmills combined with papermills or paperboard mills, and not separately reported, are classified with the latter in industries 2621 and 2631, respectively.

262 PAPERMILLS, EXCEPT BUILDING PAPERMILLS

2621 Papermills, Except Building Papermills.—Establishments primarily engaged in manufacturing paper (except building paper—industry 2661) from woodpulp and other fibers, and which may also manufacture converted paper products. Pulpmills combined with papermills, and not separately reported, are also included in this industry; where separately reported, they are classified in industry 2611. Establishments primarily engaged in manufacturing converted paper products from purchased paper stock are classified in SIC groups 264 or 265.

263 PAPERBOARD MILLS

2631 Paperboard Mills.—Establishments primarily engaged in manufacturing paperboard, including paperboard coated on the paperboard machine, from woodpulp and other fibers; and which may also manufacture converted paperboard products. Pulpmills combined with paperboard mills, and not separately reported, are also included in this industry; where separately reported, they are classified in industry 2611. Establishments primarily engaged in manufacturing converted paperboard products from purchased paperboard are classified in SIC groups 264 or 265, and building board in industry 2661.

264 CONVERTED PAPER AND PAPERBOARD PRODUCTS, EXCEPT CONTAINERS AND BOXES

2641 Paper Coating and Glazing.—Establishments primarily engaged in manufacturing coated, glazed, or varnished paper from purchased paper. Also included are establishments primarily manufacturing pressure sensitive tape with backing of any material other than rubber. Establishments primarily engaged in manufacturing carbon paper are classified in industry 3955, and photographic and blueprint paper in industry 3861.

2642 Envelopes.—Establishments primarily engaged in manufacturing envelopes of any description from purchased paper and paperboard. Establishments primarily engaged in manufacturing papeteries (boxed stationery) are classified in industry 2648.

2643 Bags, Except Textile Bags.—Establishments primarily engaged in manufacturing bags from purchased paper, cellophane, acetate, polyethylene, polypropylene, pliofilm, foil, and similar sheet or film materials.

2645 Die-Cut Paper and Paperboard and Cardboard.—Establishments primarily engaged in diecutting purchased paper and paperboard; and in manufacturing cardboard by laminating, lining, or surface coating paperboard. Establishments primarily engaged in laminating building paper or building board from purchased paper or board are classified in industry 2649.

2646 Pressed and Molded Pulp Goods.—Establishments primarily engaged in manufacturing all kinds of pressed and molded pulp goods, including papier-mache articles other than statuary and art goods (industry 3299). Establishments primarily engaged in manufacturing plates and utensils from paper are classified in industry 2654.

2647 Sanitary Paper Products.—Establishments primarily engaged in manufacturing, from purchased paper, sanitary paper products, such as facial tissues and handkerchiefs, table napkins, toilet paper, towels, disposable diapers, and sanitary napkins and tampons.

2648 Stationery, Tablets, and Related Products.—Establishments primarily engaged in manufacturing stationery, tablets, looseleaf fillers, and related items from purchased paper. Establishments primarily engaged in manufacturing envelopes are classified in industry 2642.

2649 Converted Paper and Paperboard Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing from purchased paper or paperboard miscellaneous converted paper or paperboard

products not elsewhere classified. Establishments primarily engaged in manufacturing sanitary paper products from purchased paper are classified in industry 2647. The paper stock used for wallpaper, called "hanging paper," is classified in industry 2621. Establishments primarily engaged in manufacturing stationery, tablets, and related products are classified in industry 2648.

265 PAPERBOARD CONTAINERS AND BOXES

2651 Folding Paperboard Boxes.—Establishments primarily engaged in manufacturing folding paperboard boxes from purchased paperboard.

2652 Set-up Paperboard Boxes.—Establishments primarily engaged in manufacturing set-up paperboard boxes from purchased paperboard.

2653 Corrugated and Solid Fiber Boxes.—Establishments primarily engaged in manufacturing corrugated and solid fiber boxes and related products from purchased paperboard of fiber stock. Important products of this industry include corrugated and solid fiberboard boxes, pads, partitions, display items, pallets, single-face products, and corrugated sheets.

2654 Sanitary Food Containers.—Establishments primarily engaged in manufacturing food containers from special food board. Important products of this industry include fluid milk containers; folding paraffined cartons for butter, margarine, and shortening; ice cream containers; frozen food containers; liquid tight containers; round nested food containers; paper cups for hot or cold drinks; pails for food and ice cream; and stamped plates, dishes, spoons, and similar products. Establishments primarily engaged in manufacturing similar items of plastics materials are classified in industry 3079.

2655 Fiber Cans, Tubes, Drums, and Similar Products.—Establishments primarily engaged in manufacturing from purchased materials fiber cans, cones, drums, similar products with or without metal ends, and vulcanized fiber boxes.

266 BUILDING PAPER AND BUILDING BOARD MILLS

2661 Building Paper and Building Board Mills.—Establishments primarily engaged in manufacturing building paper and building board from woodpulp and other fibrous materials. Pulpmills combined with building paper and building board mills, and not separately reported, are also included in this industry; where separately reported, they are classified in industry 2611.

27 PRINTING, PUBLISHING, AND ALLIED INDUSTRIES

This major group includes establishments engaged in printing by one or more of the common processes, such as letterpress, lithography, gravure, or screen; and those establishments which perform services for the printing trade, such as bookbinding, typesetting, engraving, photoengraving, and electrotyping. This major group also includes establishments engaged in publishing newspapers, books, and periodicals, regardless of whether or not they do their own printing. News syndicates are classified in service industries, (industry 7351) and textile printing and finishing in SIC Major Group 22.

271 NEWSPAPERS: PUBLISHING, PUBLISHING AND PRINTING

2711 Newspapers: Publishing, Publishing and Printing.—Establishments primarily engaged in publishing newspapers or in publishing and printing newspapers. These establishments carry on the various operations necessary for issuing newspapers, including the gathering of news and the preparation of editorials and advertisements, but may or may not perform their own printing. Commercial printing is frequently carried on by establishments engaged in publishing and printing newspapers, but, even though the commercial printing may be of major importance, such establishments are included in this industry. Establishments not engaged in publishing newspapers, but which print or lithograph newspapers for publishers, are classified in SIC group 275. News syndicates are classified in service industries (industry 7351).

272 PERIODICALS: PUBLISHING, PUBLISHING AND PRINTING

2721 Periodicals: Publishing, Publishing and Printing.—Establishments primarily engaged in publishing periodicals or in preparing, publishing, and printing

periodicals. These establishments carry on the various operations necessary for issuing periodicals, but may or may not perform their own printing. Establishments not engaged in publishing periodicals, but which print or lithograph periodicals for publishers, are classified in SIC group 275.

273 BOOKS

2731 Books: Publishing, Publishing and Printing.—Establishments primarily engaged in publishing only, or in publishing and printing books and pamphlets. Establishments primarily engaged in printing or in printing and binding (but not publishing) books and pamphlets are classified in industry 2732.

2732 Book Printing.—Establishments primarily engaged in printing only or in printing and binding books and pamphlets, but not engaged in publishing. Establishments primarily engaged in publishing, or in publishing and printing books and pamphlets, are classified in industry 2731. Establishments engaged in both printing and binding books, but primarily binding books printed elsewhere, are classified in industry 2789.

274 MISCELLANEOUS PUBLISHING

2741 Miscellaneous Publishing.—Establishments primarily engaged in miscellaneous publishing activities, not elsewhere classified, whether or not engaged in printing. Establishments primarily engaged in offering financial, credit, or other business services, and which may publish directories as part of this service, are not included in this industry but are classified in service industries.

275 COMMERCIAL PRINTING

2751 Commercial Printing, Letterpress and Screen.—Establishments primarily engaged in letterpress and screen commercial or job printing, including flexographic. This industry includes general printing shops, as well as shops specializing in printing newspapers and periodicals for others, and those which specialize in screen printing. Establishments primarily engaged in printing books, without publishing, are classified in industry 2732, and greeting cards in industry 2771. Establishments primarily engaged in printing from lithographic plates are classified in industry 2752, and gravure and rotogravure printing in industry 2754.

2752 Commercial Printing, Lithographic.—Establishments primarily engaged in printing by the lithographic process. The greater part of the work in this industry is performed on a job or custom basis; but, in some cases, lithographed calendars, maps, posters, decalcomanias, etc., are made for sale. Offset printing, photo-offset printing, and photolithographing are also included in this industry. Establishments primarily engaged in lithographing books and pamphlets, without publishing, are classified in industry 2732, and greeting cards in industry 2771. Establishments primarily engaged in preparing lithographic plates and in related services are classified in industry 2795.

2753 Engraving and Plate Printing.—Establishments primarily engaged in engraving and etching steel, copper, wood, or rubber plates; in using these plates to print stationery, visiting and other cards, invitations, maps, etc.; and in making woodcuts for use in printing illustrations, posters, etc. Engraving for purposes other than printing is classified in industry 3479.

2754 Commercial Printing, Gravure.—Establishments primarily engaged in gravure printing.

276 MANIFOLD BUSINESS FORMS

2761 Manifold Business Forms.—Establishments primarily engaged in designing and printing, by any process, special forms for use in the operation of a business, in single and multiple sets, including carbonized or interleaved with carbon or otherwise processed for multiple reproduction.

277 GREETING CARD PUBLISHING

2771 Greeting Card Publishing.—Establishments primarily engaged in the designing, publishing, and printing by any process of greeting cards for all occasions.

278 BLANKBOOKS, LOOSELEAF BINDERS, AND BOOKBINDING AND RELATED WORK

2782 Blankbooks, Looseleaf Binders, and Devices.—Establishments primarily engaged in manufacturing blankbooks, looseleaf devices, and library binders; and in ruling paper.

2789 Bookbinding and Related Work.—Establishments primarily engaged in edition, trade, job, and library bookbinding; in book or paper bronzing, gilding, and edging; in map and sample mounting; and other services related to bookbinding. Establishments primarily binding books printed elsewhere are classified in this industry, but those primarily binding books printed in the same establishment are classified in SIC group 273.

279 SERVICE INDUSTRIES FOR THE PRINTING TRADE

2791 Typesetting.—Establishments primarily engaged in typesetting for the trade, including advertisement typesetting.

2793 Photoengraving.—Establishments primarily engaged in preparing photoengraved plates (halftones and linecuts). These establishments do not, as a rule, print from the plates which they make, but prepare them for use by others.

2794 Electrotyping and Stereotyping.—Establishments primarily engaged in preparing electrotype and stereotype plates. These establishments do not, as a rule, print from the plates which they make, but prepare them for use by others.

2795 Lithographic Platemaking and Related Services.—Establishments primarily engaged in making lithographic plates and positives or negatives from which lithographic plates are made, and in related services. Establishments primarily engaged in printing by the lithographic process are classified in industry 2752.

28 CHEMICALS AND ALLIED PRODUCTS

This major group includes establishments producing basic chemical and establishments manufacturing products by predominantly chemical processes. Establishments classified in this major group manufacture three general classes of products: (1) Basic chemicals such as acids, alkalies, salts, and organic chemicals; (2) chemical products to be used in further manufacture such as synthetic fibers, plastics materials, dry colors, and pigments; (3) finished chemical products to be used for ultimate consumption such as drugs, cosmetics, and soaps; or to be used as materials or supplies in other industries, such as paints, fertilizers, and explosives. The mining of natural rock salt is classified in mining industries. Establishments primarily engaged in manufacturing nonferrous metals and high-percentage ferroalloys are classified in SIC Major Group 33; silicon carbide in SIC Major Group 32; baking powder, other leavening compounds, and starches in SIC Major Group 20; and artists' colors in SIC Major Group 39. Establishments primarily engaged in packaging, repackaging, and bottling of purchased chemical products, but not engaged in manufacturing chemicals and allied products, are classified in trade industries.

281 INDUSTRIAL INORGANIC CHEMICALS

This group includes establishments primarily engaged in manufacturing basic industrial inorganic chemicals. Establishments primarily engaged in manufacturing formulated agricultural pesticides are classified in industry 2879; medicinal chemicals, drugs, and medicines in industry 2833; and soap and cosmetics in SIC group 284.

2812 Alkalies and Chlorine.—Establishments primarily engaged in manufacturing alkalies and chlorine.

2813 Industrial Gases.—Establishments primarily engaged in manufacturing gases for sale in compressed, liquid, and solid forms. Establishments primarily engaged in manufacturing fluorine and sulfur dioxide are classified in industry 2819; household ammonia in industry 2842, and other ammonia in industry 2873; and cholorine in industry 2812. Distributors of industrial gases and establishments primarily engaged in shipping liquid oxygen are classified in trade.

2816 Inorganic Pigments.—Establishments primarily engaged in manufacturing inorganic pigments. Important products of this industry include black pigments (except carbon black, industry 2895), white pigments, and color pigments. Organic color pigments, except animal black and bone black, are classified in industry 2865.

2819 Industrial Inorganic Chemicals, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing industrial inorganic chemicals not elsewhere classified. Important products of this industry include inorganic salts of sodium (excluding refined sodium chloride), potassium, aluminum, calcium, chromium, magnesium, mercury, nickel, silver, tin; inorganic compounds such as alums, calcium carbide, hydrogen peroxide, sodium silicate,

ammonia compounds (except fertilizers), rare earth metal salts and elemental bromine, fluorine, iodine, phosphorus, and alkali metals (sodium, potassium, lithium, etc.). Establishments primarily engaged in mining, milling, or otherwise preparing natural potassium, sodium, or boron compounds (other than common salt) are classified in industry 1474. Establishments primarily engaged in manufacturing household bleaches are classified in industry 2842; phosphoric acid in industry 2874; and nitric acid, anhydrous ammonia, and other nitrogenous fertilizer materials in industry 2873.

282 PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MANMADE FIBERS, EXCEPT GLASS

This group includes chemical establishments primarily engaged in manufacturing plastics materials and synthetic resins, synthetic rubbers, and cellulosic and manmade organic fibers. Establishments primarily engaged in the manufacture of rubber products and those primarily engaged in the compounding of purchased resins or the fabrication of plastics sheets, rods, and miscellaneous plastics products are classified in SIC Major Group 30; and textile mills primarily engaged in throwing, spinning, weaving, or knitting textile products from manufactured fibers are classified in SIC Major Group 22.

2821 **Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers.**—Establishments primarily engaged in manufacturing synthetic resins, plastics materials, and nonvulcanizable elastomers. Important products of this industry include: Cellulose plastic materials; phenolic and other tar acid resins; urea and melamine resins; vinyl resins; styrene resins; alkyd resins; acrylic resins; polyethylene resins; polypropylene resins; rosin modified resins; coumarone-indene and petroleum polymer resins; and miscellaneous resins including polyamide resins, silicones, polyisobutylenes, polyesters, polycarbonate resins, acetal resins, fluorohydrocarbon resins; and casein plastics. Establishments primarily engaged in manufacturing fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments and regenerated cellulose products, and vulcanized fiber are classified in industry 3079, whether from purchased resins or from resins produced in the same plant. Establishments primarily engaged in compounding purchased resins are also classified in industry 3079. Establishments primarily manufacturing adhesives are classified in industry 2891.

2822 **Synthetic Rubber (Vulcanizable Elastomers).**—Establishments primarily engaged in manufacturing synthetic rubber by polymerization or copolymerization. An elastomer for the purpose of this classification is a rubber-like material capable of vulcanization, such as copolymers of butadiene and styrene, or butadiene and acrylonitrile, polybutadienes, chloroprene rubbers, and isobutylene-isoprene copolymers. Butadiene copolymers containing less than 50% butadiene are classified in industry 2821. Natural chlorinated rubbers and cyclized rubbers are considered as semifinished products and are classified in industry 3069.

2823 **Cellulosic Manmade Fibers.**—Establishments primarily engaged in manufacturing cellulosic fibers (including cellulose acetate and regenerated cellulose such as rayon by the viscose or cuprammonium process) in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on spindles, looms, knitting machines, or other textile processing equipment. Establishments primarily engaged in manufacturing textile glass fibers are classified in industry 3229.

2824 **Synthetic Organic Fibers, Except Cellulosic.**—Establishments primarily engaged in manufacturing synthetic organic fibers, except cellulosic (including those of regenerated proteins, and of polymers or copolymers of such components as vinyl chloride, vinylidene chloride, linear esters, vinyl alcohols, acrylonitrile, ethylenes, amides, and related polymeric materials) in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on spindles, looms, knitting machines, or other textile processing equipment. Establishments primarily engaged in manufacturing textile glass fibers are classified in industry 3229.

283 DRUGS

This group includes establishments primarily engaged in manufacturing, fabricating, or processing medicinal chemicals and pharmaceutical products. Also included in this group are establishments primarily engaged in the grading, grinding, and milling of botanicals.

2831 **Biological Products.**—Establishments primarily engaged in the production of bacterial and virus vaccine, toxoids and analogous products (such as allergenic extracts), serums, plasmas, and other blood derivatives for human or veterinary use.

2833 Medicinal Chemicals and Botanical Products.—Establishments primarily engaged in (1) manufacturing bulk organic and inorganic medicinal chemicals and their derivatives; and (2) processing (grading, grinding, and milling) bulk botanical drugs and herbs. Establishments primarily engaged in manufacturing agar-agar and similar products of natural origin, endocrine products, manufacturing or isolating basic vitamins, and isolating active medicinal principals such as alkaloids from botanical drugs and herbs are also included in this industry.

2834 Pharmaceutical Preparations.—Establishments primarily engaged in manufacturing, fabricating, or processing drugs in pharmaceutical preparations for human or veterinary use. The greater part of the products of these establishments are finished in the form intended for final consumption, such as ampoules, tablets, capsules, vials, ointments, medicinal powders, solutions, and suspensions. Products of this industry consist of two important lines, namely: (1) Pharmaceutical preparations promoted primarily to the dental, medical, or veterinary professions; and (2) pharmaceutical preparations promoted primarily to the public.

284 SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS

This group includes establishments primarily engaged in manufacturing soap and other detergents and in producing glycerin from vegetable and animal fats and oils; specialty cleaning, polishing, and sanitation preparations; and surface active preparations used as emulsifiers, wetting agents, and finishing agents, including sulfonated oils; and perfumes, cosmetics, and other toilet preparations.

2841 Soap and Other Detergents, Except Specialty Cleaners.—Establishments primarily engaged in manufacturing soap, synthetic organic detergents, inorganic alkaline detergents, or any combination thereof, and establishments producing crude and refined glycerin from vegetable and animal fats and oils. Establishments primarily engaged in manufacturing shampoos or shaving products, whether from soap or synthetic detergents, are classified in industry 2844; and synthetic glycerin in industry 2869.

2842 Specialty Cleaning, Polishing, and Sanitation Preparations.—Establishments primarily engaged in manufacturing furniture, metal, and other polishes; waxes and dressings for fabricated leather and other materials; household, institutional and industrial plant disinfectants, deodorants; dry cleaning preparations; household bleaches; and other sanitation preparations. Establishments primarily manufacturing household pesticidal preparations are classified in industry 2879.

2843 Surface Active Agents, Finishing Agents, Sulfonated Oils and Assistants.—Establishments primarily engaged in producing surface active preparations for use as wetting agents, emulsifiers, and penetrants. Establishments engaged in producing sulfonated oils and fats and related products are also included.

2844 Perfumes, Cosmetics, and Other Toilet Preparations.—Establishments primarily engaged in manufacturing perfumes (natural and synthetic), cosmetics, and other toilet preparations. This industry also includes establishments primarily engaged in blending and compounding perfume bases; and those manufacturing shampoos and shaving products, whether from soap or synthetic detergents. Establishments primarily engaged in manufacturing synthetic perfume and flavoring materials are classified in industry 2869, and essential oils in industry 2899.

285 PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS

2851 Paints, Varnishes, Lacquers, Enamels, and Allied Products.—Establishments primarily engaged in manufacturing paints (in paste and ready-mixed form); varnishes; lacquers; enamels and shellac; putties, wood fillers and sealers; paint and varnish removers; and paint brush cleaners and allied paint products. Establishments primarily engaged in manufacturing carbon black are classified in industry 2895; boneblack, lampblack, and inorganic color pigments in industry 2816; organic color pigments in industry 2865; plastics materials in industry 2821; printing ink in industry 2893; calking compounds and sealants in industry 2891; and artists' paints in industry 3952.

286 INDUSTRIAL ORGANIC CHEMICALS

Establishments primarily engaged in manufacturing industrial organic chemicals. Important products of this group include: (1) Noncyclic organic chemicals such as

acetic, chloroacetic, adipic, formic, oxalic and tartaric acids and their metallic salts; chloral, formaldehyde, and methylamine; (2) solvents such as amyl, butyl, and ethyl alcohols; methanol; amyl, butyl and ethyl acetates; ethel ether, ethylene glycol ether and diethylene glycol ether; acetone, carbon disulfide, and chlorinated solvents such as carbon tetrachloride, perchloroethylene and trichloroethylene; (3) polyhydric alcohols such as ethylene glycol, sorbitol, pentaerythritol, synthetic glycerin; (4) synthetic perfume and flavoring materials such as coumarin, methyl salicylate, saccharin, citral, citronellal, synthetic geraniol, ionone, terpineol, and synthetic vanillin; (5) rubber processing chemicals such as accelerators and antioxidants, both cyclic and acyclic; (6) plasticizers, both cyclic and acyclic, such as esters of phosphoric acid, phthalic anhydride, adipic acid, lauric acid, oleic acid, sebacic acid, and stearic acid; (7) synthetic tanning agents such as naphthalene sulfonic acid condensates, (8) chemical warfare gases; (9) esters, amines, etc., of polyhydric alcohols and fatty and other acids; (10) cyclic crudes and intermediates; (11) cyclic dyes and organic pigments; and (12) natural gum and wood chemicals. Establishments primarily engaged in manufacturing plastics materials and nonvulcanizable elastomers are classified in industry 2821; synthetic rubber in industry 2822; essential oils in industry 2899; rayon and other synthetic fibers in industries 2823 and 2824; specialty cleaning, polishing and sanitation preparations in industry 2842; paints in industry 2851; and inorganic pigments in industry 2816. Distilleries engaged in the manufacture of grain alcohol for beverage purposes are classified in industry 2085.

2861 Gum and Wood Chemicals.—Establishments primarily engaged in manufacturing hardwood and softwood distillation products, wood and gum naval stores, charcoal, natural dyestuffs, and natural tanning materials. Establishments primarily engaged in manufacturing synthetic tanning materials and synthetic organic chemicals are classified in industry 2869, and synthetic organic dyes in industry 2865.

2865 Cyclic (Coal Tar) Crudes, and Cyclic Intermediates, Dyes, and Organic Pigments (Lakes and Toners).—Establishments primarily engaged in manufacturing coal tar crudes and cyclic organic intermediates, dyes, color lakes, and toners. Important products of this industry include: (1) Derivatives of benzene, toluene, naphthaline, anthracene, pyridine, carbazole, and other cyclic chemical products; (2) synthetic organic dyes; (3) synthetic organic pigments; and (4) cyclic (coal tar) crudes, such as light oils and light oil products; coal tar acids; and products of medium and heavy oil such as creosote oil, naphthalene, anthracene, and their higher homologues, and tar. Establishments primarily engaged in manufacturing coal tar crudes in chemical recovery ovens are classified in industry 3312, and petroleum refineries which produce such products in industry 2911.

2869 Industrial Organic Chemicals, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing industrial organic chemicals not elsewhere classified. Important products of this industry include: (1) Noncyclic organic chemicals such as acetic, chloroacetic, adipic, formic, oxalic and tartaric acids and their metallic salts; chloral, formaldehyde and methylamine; (2) solvents such as amyl, butyl, and ethyl alcohols; methanol; amyl, butyl and ethyl acetates; ethel ether, ethylene glycol ether and diethylene glycol ether; acetone, carbon disulfide and chlorinated solvents such as carbon tetrachloride, perchloroethylene and trichloroethylene; (3) polyhydric alcohols such as ethylene glycol, sorbitol, pentaerythritol, synthetic glycerin; (4) synthetic perfume and flavoring materials such as coumarin, methyl salicylate, saccharin, citral, citronellal, synthetic geraniol, ionone, terpineol, and synthetic vanillin; (5) rubber processing chemicals such as accelerators and antioxidants, both cyclic and acyclic; (6) plasticizers, both cyclic and acyclic, such as esters of phosphoric acid, phthalic anhydride, adipic acid, lauric acid, oleic acid, sebacic acid, and stearic acid; (7) synthetic tanning agents such as naphthalene sulfonic acid condensates; (8) chemical warfare gases; and (9) esters, amines, etc., of polyhydric alcohols and fatty and other acids. Establishments primarily engaged in manufacturing plastics materials and nonvulcanizable elastomers are classified in industry 2821; synthetic rubber in industry 2822; essential oils in industry 2899; wood distillation products, naval stores, and natural dyeing and tanning materials in industry 2861; rayon and other synthetic fibers in industries 2823 and 2824; specialty cleaning, polishing, and sanitation preparations in industry 2842; paints in industry 2851; urea in industry 2873; organic pigments in industry 2865; and inorganic pigments in industry 2816. Distilleries engaged in the manufacture of grain alcohol for beverage purposes are classified in industry 2085.

287 AGRICULTURAL CHEMICALS

This group includes establishments primarily engaged in manufacturing nitrogenous and phosphatic basic fertilizers, mixed fertilizers, pesticides, and other agricultural chemicals. Establishments primarily engaged in manufacturing basic chemicals which require further processing or formulation before use as agricultural pest-control agents are classified in SIC group 281 or 286.

2873 Nitrogenous Fertilizers.—Establishments primarily engaged in manufacturing nitrogenous fertilizer material or mixed fertilizers from nitrogenous materials produced in the same establishment. Included are ammonia fertilizer compounds and anhydrous ammonia, nitric acid, ammonium nitrate, ammonium sulfate and nitrogen solutions, urea, and natural organic fertilizers (except compost) and mixtures.

2874 Phosphatic Fertilizers.—Establishments primarily engaged in manufacturing phosphatic fertilizer materials or mixed fertilizers from phosphatic materials produced in the same establishment. Included are phosphoric acid; normal, enriched, and concentrated superphosphates; ammonium phosphates; nitrophosphates; and calcium metaphosphates.

2875 Fertilizers, Mixing Only.—Establishments primarily engaged in mixing fertilizers from purchased fertilizer materials.

2879 Pesticides and Agricultural Chemicals, Not Elsewhere Classified.—Establishments primarily engaged in the formulation and preparation of ready-to-use agricultural and household pest-control chemicals, including insecticides, fungicides, and herbicides from technical chemicals or concentrates; and the production of concentrates which require further processing before use as agricultural pesticides. This industry also includes establishments primarily engaged in manufacturing or formulating agricultural chemicals, not elsewhere classified, such as minor or trace elements and soil conditioners. Establishments primarily engaged in manufacturing basic or technical agricultural pest-control chemicals including insecticides, fungicides, and herbicides such as lead and calcium arsenates, and copper sulfate are classified in SIC group 281, and DDT, BHC, 2,4-D carbamates, etc., in SIC group 286. Establishments primarily engaged in manufacturing agricultural lime products are classified in SIC Major Group 32.

289 MISCELLANEOUS CHEMICAL PRODUCTS

2891 Adhesives and Sealants.—Establishments primarily engaged in manufacturing industrial and household adhesives, glues, calking compounds, sealants, and linoleum, tile, and rubber cements from vegetable, animal, or synthetic plastics materials, purchased or produced in the same establishment. Establishments primarily engaged in manufacturing gelatin and sizes are classified in industry 2899, and vegetable gelatin or agar-agar in industry 2833.

2892 Explosives.—Establishments primarily engaged in manufacturing explosives. Establishments primarily engaged in manufacturing ammunition for small arms are classified in industry 3482, and fireworks in industry 2899.

2893 Printing Ink.—Establishments primarily engaged in manufacturing printing ink, gravure ink, screen process ink, and lithographic ink.

2895 Carbon Black.—Establishments primarily engaged in manufacturing carbon black (channel and furnace black).

2899 Chemicals and Chemical Preparations, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing miscellaneous chemical preparations, not elsewhere classified, such as fatty acids, essential oils, gelatin (except vegetable), sizes, bluing, laundry sours, writing and stamp pad inks; industrial compounds, such as boiler and heat insulating compounds, metal, oil and water treating compounds, and waterproofing compounds and chemical supplies for foundries. Establishments primarily engaged in manufacturing vegetable gelatin (agar-agar) are classified in industry 2833; and dessert preparations based on gelatin in industry 2099.

29 PETROLEUM REFINING AND RELATED INDUSTRIES

This major group includes establishments primarily engaged in petroleum refining, manufacturing paving and roofing materials, and compounding lubricating oils and greases from purchased materials. Establishments manufacturing and distributing gas to consumers are classified in public utilities industries, and those primarily engaged in producing coke and byproducts in SIC Major Group 33.

291 PETROLEUM REFINING

2911 Petroleum Refining.—Establishments primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, and other products from crude petroleum and its fractionation products, through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes. Establishments primarily engaged in producing natural gasoline from natural gas are classified in mining industries. Those manufacturing lubricating oils and greases by blending and compounding purchased materials are included in industry 2992. Establishments primarily re-refining used lubricating oils are classified in industry 2992.

295 PAVING AND ROOFING MATERIALS

2951 Paving Mixtures and Blocks.—Establishments primarily engaged in manufacturing asphalt and tar paving mixtures; and paving blocks made of asphalt, creosoted wood, and various compositions of asphalt or tar with other materials. Establishments primarily engaged in manufacturing brick, concrete, granite, and stone paving blocks are classified in SIC Major Group 32.

2952 Asphalt Felts and Coatings.—Establishments primarily engaged in manufacturing asphalt and other saturated felts in roll or shingle form, either smooth or faced with grit, and in manufacturing roofing cements and coatings. Establishments primarily engaged in manufacturing paint are classified in industry 2851, and linoleum and tile cement in industry 2891.

299 MISCELLANEOUS PRODUCTS OF PETROLEUM AND COAL

2992 Lubricating Oils and Greases.—Establishments primarily engaged in blending, compounding, and re-refining lubricating oils and greases from purchased mineral, animal, and vegetable materials. Petroleum refineries engaged in the production of lubricating oils and greases are classified in industry 2911.

2999 Products of Petroleum and Coal, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing fuel briquettes, boulets, packaged fuel, powdered fuel, and other products of petroleum and coal not elsewhere classified.

30 RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS

This major group includes establishments manufacturing from natural, synthetic, or reclaimed rubber, gutta percha, balata, or gutta siak, rubber products such as tires, rubber footwear, mechanical rubber goods, heels and soles, flooring, and rubber sundries. This group also includes establishments primarily manufacturing tires, but establishments primarily recapping and retreading automobile tires are classified in industry 7534. This group also includes establishments engaged in molding primary plastics for the trade and manufacturing miscellaneous finished plastics products. The manufacture of elastic webbing is classified in SIC Major Group 22; products made of elastic webbing and garments made from rubberized fabrics in SIC Major Group 23; and synthetic rubber in industry 2822.

301 TIRES AND INNER TUBES

3011 Tires and Inner Tubes.—Establishments primarily engaged in manufacturing pneumatic casings, inner tubes, and solid and cushion tires for all types of vehicles, airplanes, farm equipment, and children's vehicles; tiring; and camelback, and tire repair and retreading materials. Establishments primarily engaged in retreading tires are classified in industry 7534.

302 RUBBER AND PLASTICS FOOTWEAR

3021 Rubber and Plastics Footwear.—Establishments primarily engaged in manufacturing all rubber and plastics footwear, waterproof fabric upper footwear, and other fabric upper footwear having rubber or plastic soles vulcanized to the uppers. Establishments primarily engaged in manufacturing rubber, composition, and fiber heels, soles, soling strips, and related shoemaking and repairing materials are classified in industry 3069; plastic soles and soling strips in industry 3079.

303 RECLAIMED RUBBER

3031 Reclaimed Rubber.—Establishments primarily engaged in reclaiming rubber from scrap rubber tires, tubes, and miscellaneous waste rubber articles by processes which result in devulcanized, depolymerized, or regenerated replasticized products containing added ingredients. These products are sold

for use as a raw material in the manufacture of rubber goods with or without admixture with crude rubber or synthetic rubber. Establishments primarily engaged in the assembly and wholesale sale of scrap rubber are classified in trade industries.

304 RUBBER AND PLASTICS HOSE AND BELTING

3041 Rubber and Plastics Hose and Belting.—Establishments primarily engaged in manufacturing rubber and plastics hose and belting, including garden hose. Establishments primarily engaged in manufacturing rubber tubing are classified in industry 3069; plastic tubing in industry 3079; and flexible metallic hose in industry 3599.

306 FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED

3069 Fabricated Rubber Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing industrial and mechanical rubber goods, rubberized fabrics, vulcanized rubber clothing, and miscellaneous rubber specialties and sundries. Establishments primarily engaged in rebuilding and retreading tires are classified in industry 7534; and gaskets and packing in industry 3293.

307 MISCELLANEOUS PLASTICS PRODUCTS

3079 Miscellaneous Plastics Products.—Establishments primarily engaged in molding primary plastics for the trade, and fabricating miscellaneous finished plastics products. Establishments primarily engaged in manufacturing fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments and regenerated cellulose products, and vulcanized fiber are classified in this industry, whether from purchased resins or from resins produced in the same plant. Establishments primarily engaged in compounding purchased resins are also classified in this industry. Establishments primarily engaged in manufacturing artificial leather are classified in industry 2295.

31 LEATHER AND LEATHER PRODUCTS

This major group includes establishments engaged in tanning, currying, and finishing hides and skins, and establishments manufacturing finished leather, artificial leather products, and some similar products made of other materials. Leather converters are also included.

311 LEATHER TANNING AND FINISHING

3111 Leather Tanning and Finishing.—Establishments primarily engaged in tanning, currying, and finishing hides and skins into leather. This industry also includes leather converters who buy hides and skins and have them processed into leather on a contract basis by others.

313 BOOT AND SHOE CUT STOCK AND FINDINGS

3131 Boot and Shoe Cut Stock and Findings.—Establishments primarily engaged in manufacturing leather soles, inner soles, and other boot and shoe cut stock and findings. This industry also includes finished wood heels. Establishments primarily engaged in manufacturing heels, soling strips, and soles made of rubber, composition, plastics, and fiber are classified in SIC Major Group 30.

314 FOOTWEAR, EXCEPT RUBBER

3142 House Slippers.—Establishments primarily engaged in manufacturing house slippers of leather or other materials.

3143 Men's Footwear, Except Athletic.—Establishments primarily engaged in the production of men's footwear designed primarily for dress, street, and work. Establishments primarily engaged in the production of such protective footwear as rubbers, rubber boots, storm shoes, galoshes, and other footwear with rubber soles vulcanized to the uppers are classified in industry 3021. Establishments primarily engaged in the production of athletic shoes and youths' and boys' shoes are classified in industry 3149.

3144 Women's Footwear, Except Athletic.—Establishments primarily engaged in the production of women's footwear designed primarily for dress, street, and work. Establishments primarily engaged in the production of athletic shoes and misses', children's, infants', and babies' footwear are classified in industry 3149 Establishments primarily engaged in the production of rubber or plastics footwear are classified in industry 3021.

3149 Footwear, Except Rubber, Not Elsewhere Classified.—Establishments primarily engaged in the production of shoes, not elsewhere classified, such as misses', youths', boys', children's, infants', and babies' footwear, and athletic footwear. Establishments primarily engaged in the production of rubber or plastics footwear are classified in industry 3021.

315 LEATHER GLOVES AND MITTENS

3151 Leather Gloves and Mittens.—Establishments primarily engaged in manufacturing dress, semidress, and work gloves exclusively of leather or leather with lining of other material. Establishments primarily engaged in manufacturing sporting and athletic gloves are classified in industry 3949; and dress, semidress, and work gloves and mittens of cloth or cloth and leather combined in industry 2381.

316 LUGGAGE

3161 Luggage.—Establishments primarily engaged in manufacturing luggage of leather or other materials.

317 HANDBAGS AND OTHER PERSONAL LEATHER GOODS

3171 Women's Handbags and Purses.—Establishments primarily engaged in manufacturing women's handbags and purses of leather or other materials, except precious metal (industry 3911).

3172 Personal Leather Goods, Except Women's Handbags and Purses.—Establishments primarily engaged in manufacturing small articles, such as billfolds, key cases, and coin purses of leather or other materials, except precious metal (industry 3911).

319 LEATHER GOODS, NOT ELSEWHERE CLASSIFIED

3199 Leather Goods, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing leather goods, not elsewhere classified, such as saddlery, harness, whips, embossed leather goods, leather desk sets, razor strops, and leather belting. Establishments primarily engaged in manufacturing gaskets and packing are classified in industry 3293.

32 STONE, CLAY, GLASS, AND CONCRETE PRODUCTS

This major group includes establishments engaged in manufacturing flat glass and other glass products, cement, structural clay products, pottery, concrete and gypsum products, cut stone, abrasive and asbestos products, etc., from materials taken principally from the earth in the form of stone, clay, and sand. When separate reports are available for mines and quarries operated by manufacturing establishments classified in this major group, the mining and quarrying activities are classified in Division B. When separate reports are not available, the mining and quarrying activities other than those of industry 3295 are classified herein with the manufacturing operations.

If separate reports are not available for crushing, grinding, and other preparation activities of industry 3295, these establishments are classified in Division B.

321 FLAT GLASS

3211 Flat Glass.—Establishments primarily engaged in manufacturing flat glass. This industry also produces laminated glass, but establishments primarily engaged in manufacturing laminated glass from purchased flat glass are classified in industry 3231.

322 GLASS AND GLASSWARE, PRESSED OR BLOWN

This group includes establishments primarily engaged in manufacturing glass and glassware, pressed, blown, or shaped from glass produced in the same establishment. Establishments primarily engaged in manufacturing glass products from purchased glass are classified in industry 3231.

3221 Glass Containers.—Establishments primarily engaged in manufacturing glass containers for commercial packing and bottling and for home canning.

3229 Pressed and Blown Glass and Glassware, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing glass and glassware, not elsewhere classified, pressed, blown, or shaped from glass produced in the same establishment. Establishments primarily engaged in manufacturing textile glass fibers are also included in this industry, but establishments primarily engaged in manufacturing glass wool insulation products are classified in industry

3296. Establishments primarily engaged in the production of pressed lenses for vehicular lighting, beacons, and lanterns are also included in this industry, but establishments primarily engaged in the production of optical lenses are classified in industry 3832. Establishments primarily engaged in manufacturing glass containers are classified in industry 3221, and complete electric light bulbs in industry 3641.

323 GLASS PRODUCTS, MADE OF PURCHASED GLASS

3231 Glass Products, Made of Purchased Glass.—Establishments primarily engaged in manufacturing glass products from purchased glass. Establishments primarily engaged in manufacturing optical lenses and ophthalmic lenses are classified in SIC Major Group 38.

324 CEMENT, HYDRAULIC

3241 Cement, Hydraulic.—Establishments primarily engaged in manufacturing hydraulic cement, including portland, natural, masonry, and pozzolan cements.

325 STRUCTURAL CLAY PRODUCTS

3251 Brick and Structural Clay Tile.—Establishments primarily engaged in manufacturing brick and structural clay tile. Establishments primarily engaged in manufacturing clay firebrick are classified in industry 3255, nonclay firebrick in industry 3297, sand lime brick in industry 3299, and glass brick in industry 3229.

3253 Ceramic Wall and Floor Tile.—Establishments primarily engaged in manufacturing ceramic wall and floor tile. Establishments primarily engaged in manufacturing structural clay tile are classified in industry 3251, and drain tile in industry 3259.

3255 Clay Refractories.—Establishments primarily engaged in manufacturing clay firebrick and other heat-resisting clay products. Establishments primarily engaged in manufacturing nonclay refractories, as well as all graphite refractories whether of carbon bond or ceramic bond, are classified in industry 3297.

3259 Structural Clay Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing clay sewer pipe and structural clay products not elsewhere classified

326 POTTERY AND RELATED PRODUCTS

3261 Vitreous China Plumbing Fixtures and China and Earthenware Fittings and Bathroom Accessories.—Establishments primarily engaged in manufacturing china plumbing fixtures and china and earthenware fittings and bathroom accessories.

3262 Vitreous China Table and Kitchen Articles.—Establishments primarily engaged in manufacturing vitreous china table and kitchen articles for use in households and in hotels, restaurants, and other commercial institutions for preparing, serving, or storing food or drink. Establishments primarily engaged in manufacturing fine (semivitreous) types of earthenware (whiteware) table and kitchen articles are classified in industry 3263.

3263 Fine Earthenware (Whiteware) Table and Kitchen Articles.—Establishments primarily engaged in manufacturing fine (semivitreous) types of earthenware table and kitchen articles for preparing, serving, or storing food or drink. Establishments primarily engaged in manufacturing vitreous china table and kitchen articles are classified in industry 3262.

3264 Porcelain Electrical Supplies.—Establishments primarily engaged in manufacturing porcelain electrical insulators, molded porcelain parts for electrical devices, spark plug and steatitic porcelain, and other electrical supplies from clay and other ceramic materials.

3269 Pottery Products, Not Elsewhere Classified.—Establishments primarily engaged in firing and decorating white china and earthenware for the trade and manufacturing art and ornamental pottery, industrial and laboratory pottery, stoneware and coarse earthenware table and kitchen articles, unglazed red earthenware florists' articles, and other pottery products, not elsewhere classified.

327 CONCRETE, GYPSUM, AND PLASTER PRODUCTS

3271 Concrete Block and Brick.—Establishments primarily engaged in manufacturing concrete building block and brick from a combination of cement and aggregate. Contractors engaged in concrete construction work are classified in the construction industries, and establishments primarily engaged in mixing and delivering ready-mixed concrete in industry 3273.

3272 Concrete Products, Except Block and Brick.—Establishments primarily engaged in manufacturing concrete products, except block and brick, from a combination of cement and aggregate. Contractors engaged in concrete construction work are classified in the construction industries, and establishments primarily engaged in mixing and delivering ready-mixed concrete in industry 3273.

3273 Ready-Mixed Concrete.—Establishments primarily engaged in manufacturing portland cement concrete manufactured and delivered to a purchaser in a plastic and unhardened state. This industry includes production and sale of central-mixed concrete, shrink-mixed concrete, and transit-mixed concrete.

3274 Lime.—Establishments primarily engaged in manufacturing quicklime, hydrated lime, and "dead-burned" dolomite from limestone, dolomite shells, or other substances.

3275 Gypsum Products.—Establishments primarily engaged in manufacturing plaster, plasterboard, and other products composed wholly or chiefly of gypsum.

328 CUT STONE AND STONE PRODUCTS

3281 Cut Stone and Stone Products.—Establishments primarily engaged in cutting, shaping, and finishing marble, granite, slate, and other stone for building and miscellaneous uses. Establishments primarily engaged in buying or selling partly finished monuments and tombstones, but performing no work on the stones other than lettering, finishing, or shaping to custom order, are classified in trade industries. The cutting of grindstones, pulpstones, and whetstones at the quarry is classified in Division B.

329 ABRASIVE, ASBESTOS, AND MISCELLANEOUS NONMETALLIC MINERAL PRODUCTS

3291 Abrasive Products.—Establishments primarily engaged in manufacturing abrasive grinding wheels of natural or synthetic materials and other abrasive products. The cutting of grindstones, pulpstones, and whetstones at the quarry is classified in mining industries.

3292 Asbestos Products.—Establishments primarily engaged in manufacturing asbestos textiles, asbestos building materials, except asbestos paper (industry 2661), insulating materials for covering boilers and pipes, and other commodities composed wholly or chiefly of asbestos. Establishments primarily engaged in manufacturing gaskets and steam and other packing are classified in industry 3293.

3293 Gaskets, Packing, and Sealing Devices.—Establishments primarily engaged in manufacturing gaskets, gasketing materials, compression packings, molded packings, oil seals, and mechanical seals. Included are gaskets, packing, and sealing devices made of leather, rubber, metal, asbestos, and plastics.

3295 Minerals and Earths, Ground or Otherwise Treated.—Establishments operating without a mine or quarry and primarily engaged in the crushing, grinding, pulverizing, or otherwise preparing clay, ceramic, and refractory minerals; barite; and miscellaneous nonmetallic minerals, except fuels. These minerals are the crude products mined by establishments of SIC groups 145 and 149 and industry 1472. Also included are establishments primarily crushing slag and preparing roofing granules. The beneficiation or preparation of other minerals and metallic ores, and the cleaning and grading of coal, are classified in the mining industries, whether or not the operation is associated with a mine.

3296 Mineral Wool.—Establishments primarily engaged in manufacturing mineral wool and mineral wool insulation products made of such siliceous materials as rock, slag, and glass, or combinations thereof. Establishments primarily engaged in manufacturing asbestos insulation products are classified in industry 3292, and textile glass fibers in industry 3229.

3297 Nonclay Refractories.—Establishments primarily engaged in manufacturing refractories and crucibles made of materials other than clay. This industry also includes establishments primarily engaged in manufacturing all graphite refractories, whether of carbon bond or ceramic bond. Establishments primarily engaged in manufacturing clay refractories are classified in industry 3255.

3299 Nonmetallic Mineral Products, Not Elsewhere Classified.—Establishments primarily engaged in the factory production of statuary and art goods made of plaster of paris and papier mache, and in manufacturing sand lime products and other nonmetallic mineral products not elsewhere classified.

33 PRIMARY METAL INDUSTRIES

This major group includes establishments engaged in the smelting and refining of ferrous and nonferrous metals from ore, pig, or scrap; in the rolling, drawing, and alloying of ferrous and nonferrous metals; in the manufacture of castings and other basic products of ferrous and nonferrous metals; and in the manufacture of nails, spikes, and insulated wire and cable. This major group also includes the production of coke. Establishments primarily engaged in manufacturing metal forgings or stampings are classified in SIC group 346.

331 BLAST FURNACES, STEELWORKS, AND ROLLING AND FINISHING MILLS

3312 Blast Furnaces (Including Coke Ovens), Steelworks, and Rolling Mills.—Establishments primarily engaged in manufacturing hot metal, pig iron, silvery pig iron, and ferroalloys from iron ore and iron and steel scrap; converting pig iron, scrap iron, and scrap steel into steel; and in hot rolling iron and steel into basic shapes such as plates, sheets, strips, rods, bars, and tubing. Merchant blast furnaces and byproduct or beehive coke ovens are also included in this industry. Establishments primarily engaged in manufacturing ferro and nonferrous additive alloys by electrometallurgical processes are classified in industry 3313.

3313 Electrometallurgical Products.—Establishments primarily engaged in manufacturing ferro and nonferrous additive alloys by electrometallurgical or metallothermic processes, including high percentage ferroalloys and high percentage nonferrous additive alloys.

3315 Steel Wiredrawing and Steel Nails and Spikes.—Establishments primarily engaged in drawing wire from purchased iron or steel rods, bars, or wire, and which may be engaged in the further manufacture of products made from wire; establishments primarily engaged in manufacturing steel nails and spikes from purchased materials are also included in this industry. Rolling mills engaged in the production of ferrous wire from wire rods or hot rolled bars produced in the same establishment are classified in industry 3312. Establishments primarily engaged in drawing nonferrous wire are classified in SIC group 335.

3316 Cold Rolled Steel Sheet, Strip, and Bars.—Establishments primarily engaged in (1) cold rolling steel sheets and strip from purchased hot rolled sheets; (2) cold drawing steel bars and steel shapes from purchased hot rolled steel bars; and (3) producing other cold finished steel. Establishments primarily engaged in the production of steel, including hot rolled steel sheets, and further cold rolling such sheets are classified in industry 3312.

3317 Steel Pipe and Tubes.—Establishments primarily engaged in the production of welded or seamless steel pipe and tubes and heavy riveted steel pipe from purchased materials. Establishments primarily engaged in the production of steel, including steel skelp or steel blanks, tube rounds, or pierced billets, are classified in industry 3312.

332 IRON AND STEEL FOUNDRIES

This group includes establishments primarily engaged in manufacturing iron and steel castings. These establishments generally operate on a job or order basis, manufacturing castings for sale to others or for interplant transfer. Establishments which produce iron and steel castings and which are also engaged in fabricating operations, such as machining, assembling, etc., in manufacturing a specified product are classified in the industry of the specified product. Iron and steel castings are made to a considerable extent by establishments classified in other industries, that operate foundry departments for the production of castings for incorporation, in the same establishment, into such products as stoves, furnaces, plumbing fixtures, motor vehicles, etc. Establishments primarily engaged in the manufacture and rolling of steel and also making steel castings are classified in industry 3312. Establishments primarily engaged in manufacturing nonferrous castings are classified in SIC group 336.

3321 Gray Iron Foundries.—Establishments primarily engaged in manufacturing gray iron castings, including cast iron pressure and soil pipes and fittings.

3322 Malleable Iron Foundries.—Establishments primarily engaged in manufacturing malleable iron castings.

3324 Steel Investment Foundries.—Establishments primarily engaged in manufacturing steel investment castings.

3325 **Steel Foundries, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing steel castings not elsewhere classified.

333 PRIMARY SMELTING AND REFINING OF NONFERROUS METALS

3331 **Primary Smelting and Refining of Copper.**—Establishments primarily engaged in smelting copper from the ore, and in refining copper by electrolytic or other processes. Establishments primarily engaged in rolling, drawing, or extruding copper are classified in industry 3351.

3332 **Primary Smelting and Refining of Lead.**—Establishments primarily engaged in smelting lead from the ore and in refining lead by any process. Establishments primarily engaged in rolling, drawing, or extruding lead are classified in industry 3356.

3333 **Primary Smelting and Refining of Zinc.**—Establishments primarily engaged in smelting zinc from the ore and in refining zinc by any process. Establishments primarily engaged in rolling, drawing, or extruding zinc are classified in industry 3356.

3334 **Primary Production of Aluminum.**—Establishments primarily engaged in producing aluminum from aluminua and in refining aluminum by any process. Establishments primarily engaged in rolling, drawing, or extruding aluminum are classified in industries 3353, 3354, and 3355.

3339 **Primary Smelting and Refining of Nonferrous Metals, Not Elsewhere Classified.**—Establishments primarily engaged in smelting and refining nonferrous metals not elsewhere classified. Establishments primarily engaged in rolling, drawing, and extruding these nonferrous primary metals are classified in industry 3356, and the production of bullion at the site of the mine is classified in the mining industries.

334 SECONDARY SMELTING AND REFINING OF NONFERROUS METALS

3341 **Secondary Smelting and Refining of Nonferrous Metals.**—Establishments primarily engaged in recovering nonferrous metals and alloys from new and used scrap and dross. This industry includes establishments engaged in both the recovery and alloying of precious metals. Plants engaged in the recovery of tin through secondary smelting and refining, as well as by chemical processes, are included in this industry. Establishments primarily engaged in assembling, sorting, and breaking up scrap metal, without smelting and refining, are classified in trade industries.

335 ROLLING, DRAWING, AND EXTRUDING OF NONFERROUS METALS

3351 **Rolling, Drawing, and Extruding of Copper.**—Establishments primarily engaged in rolling, drawing, and extruding copper, brass, bronze, and other copper base alloy basic shapes, such as plate, sheet, strip, bar, and tubing. Establishments primarily engaged in recovering copper and its alloys from scrap or dross are classified in industry 3341.

3353 **Aluminum Sheet, Plate, and Foil.**—Establishments primarily engaged in flat rolling aluminum and aluminum base alloy basic shapes such as sheet, plate, and foil, including establishments producing welded tube. Also included are establishments primarily producing similar products by continuous casting.

3354 **Aluminum Extruded Products.**—Establishments primarily engaged in extruding aluminum and aluminum base alloy basic shapes such as rod and bar, pipe and tube, and tube blooms, including establishments producing tube by drawing.

3355 **Aluminum Rolling and Drawing, Not Elsewhere Classified.**—Establishments primarily engaged in rolling, drawing, and other operations resulting in the production of aluminum ingot, including extrusion ingot, and aluminum and aluminum base alloy basic shapes, not elsewhere classified, such as rolled and continuous cast rod and bar. Establishments primarily engaged in producing aluminum powder, flake, and paste are classified in industry 3399, and those producing aluminum wire and cable from purchased wire bars, rods, or wire are classified in industry 3357.

3356 **Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum.**—Establishments primarily engaged in rolling, drawing, and extruding nonferrous metals other than copper (industry 3351) and aluminum (industries 3353, 3354, and 3355). The products of this industry are

produced in the form of basic shapes such as plate, sheet, strip, bar, and tubing. Establishments primarily engaged in recovering nonferrous metals and alloys from scrap or dross are classified in industry 3341; in manufacturing gold, silver, tin, and other foils except aluminum in industry 3497; and aluminum foil in industry 3353.

3357 Drawing and Insulating of Nonferrous Wire.—Establishments primarily engaged in drawing and insulating, and insulating wire and cable of nonferrous metals from purchased wire bars, rods, or wire.

336 NONFERROUS FOUNDRIES (CASTINGS)

This group includes establishments primarily engaged in manufacturing castings and die castings of aluminum, brass, bronze and other nonferrous metals and alloys. These establishments generally operate on a job or order basis, manufacturing castings for sale to others or for interplant transfer. Establishments which produce nonferrous castings and which are also engaged in fabricating operations, such as machining, assembling, etc., in manufacturing a specified product are classified in the industry of the specified product. Nonferrous castings are made to a considerable extent by establishments classified in other industries that operate foundry departments for the production of castings for incorporation, in the same establishment, into such products as machinery, motor vehicles, etc. Establishments primarily engaged in manufacturing iron and steel castings are classified in SIC group 332.

3361 Aluminum Foundries (Castings).—Establishments primarily engaged in manufacturing castings and die castings of aluminum and aluminum-base alloys.

3362 Brass, Bronze, Copper, Copper Base Alloy Foundries (Castings).—Establishments primarily engaged in manufacturing castings and die castings of copper and copper-base alloys.

3369 Nonferrous Foundries (Castings), Not Elsewhere Classified.—Establishments primarily engaged in manufacturing castings and die castings of nonferrous materials except aluminum, copper, and copper base alloys.

339 MISCELLANEOUS PRIMARY METAL PRODUCTS

3398 Metal Heat Treating.—Establishments primarily engaged in heat treating of metal for the trade.

3399 Primary Metal Products, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing primary metal products, not elsewhere classified, such as nonferrous nails, brads, and spikes; and metal powder, flakes, and paste.

34 FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND TRANSPORTATION EQUIPMENT

This major group includes establishments engaged in fabricating ferrous and nonferrous metal products such as metal cans, tinware, handtools, cutlery, general hardware, nonelectric heating apparatus, fabricated structural metal products, metal forgings, metal stampings, ordnance (except vehicles and guided missiles), and a variety of metal and wire products not elsewhere classified. Certain important segments of the metal fabricating industries are classified in other major groups such as machinery in SIC Major Groups 35 and 36; transportation equipment, including tanks, in SIC Major Group 37; professional scientific and controlling instruments, watches, and clocks in SIC Major Group 38; and jewelry and silverware in SIC Major Group 39. Establishments primarily engaged in producing ferrous and nonferrous metals and their alloys are classified in SIC Major Group 33.

341 METAL CANS AND SHIPPING CONTAINERS

3411 Metal Cans.—Establishments primarily engaged in manufacturing metal cans from purchased materials. Establishments primarily engaged in manufacturing foil containers are classified in industry 3497.

3412 Metal Shipping Barrels, Drums, Kegs, and Pails.—Establishments primarily engaged in manufacturing ferrous and nonferrous metal shipping barrels, drums, kegs, and pails.

342 CUTLERY, HANDTOOLS, AND GENERAL HARDWARE

3421 Cutlery.—Establishments primarily engaged in manufacturing cutlery. Establishments primarily engaged in manufacturing table cutlery made entirely of metal are classified in industry 3914; those manufacturing electric razors in industry 3634; and those manufacturing hair clippers for human use in industry 3999, and for animal use in industry 3523.

3423 Hand and Edge Tools, Except Machine Tools and Handsaws.—Establishments primarily engaged in manufacturing files and other hand and edge tools for metalworking, woodworking, and general maintenance. Establishments primarily engaged in manufacturing saws are classified in industry 3425; and metal-cutting dies, power-driven handtools, and attachments and accessories for machine tools in SIC Major Group 35.

3425 Handsaws and Saw Blades.—Establishments primarily engaged in manufacturing handsaws and saw blades for hand and power-driven saws. Establishments primarily engaged in manufacturing power-driven sawing machines are classified in SIC Major Group 35.

3429 Hardware, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing miscellaneous metal products usually termed "hardware," not elsewhere classified. Establishments primarily engaged in manufacturing bolts and nuts are classified in industry 3452, nails and spikes in SIC Major Group 33, cutlery in industry 3421, handtools in industry 3423, and pole line and transmission hardware in SIC Major Group 36.

343 HEATING EQUIPMENT, EXCEPT ELECTRIC AND WARM AIR; AND PLUMBING FIXTURES

3431 Enameled Iron and Metal Sanitary Ware.—Establishments primarily engaged in manufacturing enameled iron, cast iron, or pressed metal sanitary ware. Establishments primarily engaged in manufacturing vitreous and semivitreous pottery sanitary ware are classified in industry 3261; and those manufacturing porcelain enameled kitchen, household, and hospital ware in industry 3469.

3432 Plumbing Fixture Fittings and Trim (Brass Goods).—Establishments primarily engaged in manufacturing plumbing fixture fittings and trim (brass goods). Establishments primarily engaged in the manufacture of steam or water line valves are classified in industry 3494.

3433 Heating Equipment, Except Electric and Warm Air Furnaces.—Establishments primarily engaged in manufacturing heating equipment, except electric and warm air furnaces, including gas, oil, and stoker coal-fired equipment for the automatic utilization of gaseous, liquid, and solid fuels. Establishments primarily engaged in manufacturing warm air furnaces are classified in industry 3585; cooking stoves and ranges in industry 3631; boiler shops primarily engaged in the production of industrial, power and marine boilers in industry 3443; and industrial process furnaces and ovens in industry 3567.

344 FABRICATED STRUCTURAL METAL PRODUCTS

3441 Fabricated Structural Metal.—Establishments primarily engaged in manufacturing fabricated iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges. Establishments primarily engaged in manufacturing metal doors, sash, frames, molding, and trim are classified in industry 3442; and establishments doing fabrication work at the site of construction are classified in Division C.

3442 Metal Doors, Sash, Frames, Molding, and Trim.—Establishments primarily engaged in manufacturing ferrous and nonferrous metal and metal covered doors and sash, window and door frames and screens, molding, and trim.

3443 Fabricated Platework (Boiler Shops).—Establishments primarily engaged in manufacturing power and marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments, and similar products by the process of cutting, forming, and joining metal plates, shapes, bars, sheet, pipe mill products, and tubing to custom or standard design for factory or field assembly. Establishments primarily engaged in manufacturing warm air heating furnaces are classified in industry 3585, other nonelectric heating apparatus except power boilers in industry 3433, and household cooking apparatus in industry 3631.

3444 Sheet Metalwork.—Establishments primarily engaged in manufacturing sheet metalwork for buildings (not including fabrication work done by construction contractors at the place of construction), and manufacturing sheet metal stovepipes, light tanks, etc.

3446 Architectural and Ornamental Metalwork.—Establishments primarily engaged in manufacturing architectural and ornamental metalwork of ferrous and nonferrous metals, such as stairs and staircases, open

steel flooring (grating), fire escapes, grilles, railings, and fences and gates, except those made from wire. Establishments primarily engaged in manufacturing prefabricated and portable metal buildings and parts are classified in industry 3448, and miscellaneous metalwork in industry 3449.

3448 **Prefabricated Metal Buildings and Components.**—Establishments primarily engaged in manufacturing prefabricated and portable metal buildings and parts, and prefabricated exterior metal panels.

3449 **Miscellaneous Metalwork.**—Establishments primarily engaged in manufacturing miscellaneous ferrous and nonferrous metalwork, such as metal plaster bases, fabricated bar joists, and concrete reinforcing bars.

345 SCREW MACHINE PRODUCTS, AND BOLTS, NUTS, SCREWS, RIVETS, AND WASHERS

3451 **Screw Machine Products.**—Establishments primarily engaged in manufacturing automatic or hand screw machine products from rod, bar, or tube stock of metal, fiber, plastics, or other material. The products of this industry consist of a wide variety of unassembled parts and are usually manufactured on a job or order basis. Establishments primarily engaged in manufacturing standard bolts, nuts, rivets, screws, and other industrial fasteners on headers, threaders, and nut forming machines are classified in industry 3452.

3452 **Bolts, Nuts, Screws, Rivets, and Washers.**—Establishments primarily engaged in manufacturing bolts, nuts, screws, rivets, washers, formed and threaded wire goods, and special industrial fasteners. Rolling mills engaged in manufacturing similar products are classified in SIC Major Group 33, and establishments primarily engaged in manufacturing screw machine products in industry 3451.

346 METAL FORGINGS AND STAMPINGS

This group includes establishments primarily engaged in manufacturing metal forgings or metal stampings. These establishments generally operate on a job or order basis, manufacturing metal stampings or forgings for sale to others or for interplant transfer. Establishments which produce metal stampings or forgings for incorporation in end products produced in the same establishment are classified on the basis of the end product.

3462 **Iron and Steel Forgings.**—Establishments primarily engaged in manufacturing iron and steel forgings, with or without the use of dies.

3463 **Nonferrous Forgings.**—Establishments primarily engaged in manufacturing nonferrous forgings, with or without the use of dies.

3465 **Automotive Stampings.**—Establishments primarily engaged in manufacturing automotive stampings such as body parts, hubs, and trim.

3466 **Crowns and Closures.**—Establishments primarily engaged in manufacturing metal crowns and closures.

3469 **Metal Stampings, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing metal stampings and spun products, not elsewhere classified, including porcelain enameled products such as household appliance housings and parts; utensils and consumer stamped and spun products such as cooking and kitchen utensils; and other nonautomotive job stampings.

347 COATING, ENGRAVING, AND ALLIED SERVICES

3471 **Electroplating, Plating, Polishing, Anodizing, and Coloring.**—Establishments primarily engaged in all types of electroplating, plating, anodizing, coloring, and finishing of metals and formed products for the trade. Most of the work done in this industry is done on materials owned by others.

3479 **Coating, Engraving, and Allied Services, Not Elsewhere Classified.**—Establishments primarily engaged in performing the following types of services on metals: (1) Enameling, lacquering, and varnishing metal products for the trade; (2) hot-dip galvanizing of mill sheets, plates and bars, castings, and formed products fabricated of iron and steel; hot-dip coating such items with aluminum, lead, or zinc; retinning cans and utensils; (3) engraving, chasing and etching jewelry, silverware, notarial and other seals, and other metal products for the trade and for job contracting for purposes other than printing; and (4) other metal services, not elsewhere classified. Establishments primarily engaged in electroplating, plating, polishing, anodizing, coloring, and finishing of metals and formed products for the trade are classified in industry 3471; and those producing porcelain enameled products in industry 3469.

348 ORDNANCE AND ACCESSORIES, EXCEPT VEHICLES AND GUIDED MISSILES

3482 Small Arms Ammunition.—Establishments primarily engaged in manufacturing ammunition for small arms having a bore of 30 mm (or 1.18 inch) and below. Establishments primarily engaged in manufacturing ammunition except for small arms are classified in industry 3483, blasting and detonating caps and safety fuses in industry 2892, and fireworks in industry 2899.

3483 Ammunition, Except for Small Arms, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing ammunition, not elsewhere classified, or in loading and assembling ammunition over 30 mm (or over 1.18 inch) for naval, aircraft, antiaircraft, tank, coast, and field artillery; including component parts. This industry also includes establishments primarily engaged in manufacturing bombs, mines, torpedoes, grenades, depth charges, chemical warfare projectiles, and their component parts. Establishments primarily engaged in manufacturing small arms ammunition are classified in industry 3482, explosives in industry 2892, and military pyrotechnics in industry 2899.

3484 Small Arms.—Establishments primarily engaged in manufacturing small firearms having a bore 30 mm (or 1.18 inch) and below, and parts for small firearms. Also included in this industry are establishments primarily engaged in manufacturing certain weapons over 30 mm which are carried and employed by the individual, such as grenade launchers and heavy field machine guns. Establishments primarily engaged in manufacturing artillery and mortars having a bore over 30 mm (or over 1.18 inch) and component parts are classified in industry 3489.

3489 Ordnance and Accessories, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing ordnance and accessories, not elsewhere classified, such as naval, aircraft, antiaircraft, tank, coast, and field artillery having a bore over 30 mm (or over 1.18 inch) and components. Establishments primarily engaged in manufacturing small arms and parts 30 mm (or 1.18 inch) and below are classified in industry 3484; tanks in industry 3795; and guided missiles in SIC group 376.

349 MISCELLANEOUS FABRICATED METAL PRODUCTS

3493 Steel Springs, Except Wire.—Establishments primarily engaged in manufacturing leaf springs, hot wound springs, and coiled flat springs. Establishments primarily engaged in manufacturing wire springs are classified in industry 3495.

3494 Valves and Pipe Fittings, Except Plumbers' Brass Goods.—Establishments primarily engaged in manufacturing pipe fittings and valves for controlling the flow of liquids or gases in pipes and mains, and for machinery. Establishments primarily engaged in manufacturing faucets, spigots, and similar plumbers' brass goods and fittings are classified in industry 3432, flexible metal hose and tubing in industry 3599, and fittings and couplings for garden hose in industry 3429.

3495 Wire Springs.—Establishments primarily engaged in manufacturing wire springs. Establishments primarily engaged in assembling wire bedsprings or seats are classified in SIC Major Group 25.

3496 Miscellaneous Fabricated Wire Products.—Establishments primarily engaged in manufacturing miscellaneous fabricated wire products from purchased wire, such as noninsulated wire rope and cable; fencing; screening, netting, paper machine wire cloth; and hangers, paper clips, kitchenware, and wire carts. Rolling mills engaged in manufacturing wire products are classified in SIC Major Group 33; establishments manufacturing nonferrous wire nails and spikes in industry 3399; those drawing and insulating nonferrous wire in industry 3357; and those manufacturing wire springs in industry 3495.

3497 Metal Foil and Leaf.—Establishments primarily engaged in manufacturing gold, silver, tin, and other metal foil (including converted metal foil) and leaf. Also included are establishments primarily engaged in converting metal foil (including aluminum) into wrappers, cookware, dinnerware, and containers, except bags and liners. Establishments primarily engaged in manufacturing plain aluminum foil are classified in industry 3353.

3498 Fabricated Pipe and Fabricated Pipe Fittings.—Establishments primarily engaged in fabricating pipe and pipe fittings from purchased pipe, by cutting,

threading, bending, etc. Establishments primarily engaged in manufacturing cast iron pipe and fittings, including cast and forged pipe fittings which have been machined and threaded, are classified in industry 3321; and welded and heavy riveted pipe and seamless steel pipe in industry 3317. Establishments primarily engaged in manufacturing products such as bannisters, railings, and guards from pipe are classified in industry 3446.

3499 **Fabricated Metal Products, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing fabricated metal products, not elsewhere classified, such as fire or burglary resistive steel safes and vaults and similar fire or burglary resistive products; and collapsible tubes of thin flexible metal. Also included are establishments primarily engaged in manufacturing metal boxes, metal ladders, and metal household articles such as ice cream freezers and ironing boards. Establishments primarily engaged in manufacturing concrete grave vaults are classified in industry 3722, and metal grave vaults in industry 3995. Establishments primarily engaged in manufacturing advertising novelties are classified in industry 3993.

35 MACHINERY, EXCEPT ELECTRICAL

This major group includes establishments engaged in manufacturing machinery and equipment other than electrical equipment (SIC Major Group 36) and transportation equipment (SIC Major Group 37). Machines powered by built-in or detachable motors are ordinarily included in this major group, with the exception of electrical household appliances (SIC Major Group 36). Portable tools, both electric and pneumatic powered, are included in this major group, but handtools are classified in SIC Major Group 34.

351 ENGINES AND TURBINES

3511 **Steam, Gas, and Hydraulic Turbine Generator Set Units.**—Establishments primarily engaged in manufacturing steam turbines; hydraulic turbines; gas turbines, except aircraft; complete steam, gas, and hydraulic turbine generator set units; and steam engines. Establishments primarily engaged in building or rebuilding locomotives are classified in industry 3743; and those manufacturing nonautomotive type generators which are not part of a turbine generator set in industry 3621.

3519 **Internal Combustion Engines, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing diesel, semi-diesel, or other internal combustion engines, not elsewhere classified, for stationary, marine, traction, and other uses. Establishments primarily engaged in manufacturing aircraft engines are classified in industry 3724; automotive engines (except diesel) in industry 3714; engine generator sets in industry 3621; and guided missile and space vehicle propulsion units in industry 3764.

352 FARM AND GARDEN MACHINERY AND EQUIPMENT

3523 **Farm Machinery and Equipment.**—Establishments primarily engaged in manufacturing farm machinery and equipment, including wheel tractors, for use in the preparation and maintenance of the soil; planting and harvesting of the crop; preparing crops for market, on the farm; or for use in performing other farm operations and processes. Establishments primarily engaged in manufacturing industrial trucks, tractors, and trailers used for handling materials in industrial plants, depots, and docks are classified in industry 3537; contractors' off-highway tractors are classified in industry 3531; farm handtools in SIC group 342; and garden tractors, lawn mowers and other lawn and garden equipment in industry 3524.

3524 **Garden Tractors and Lawn and Garden Equipment.**—Establishments primarily engaged in manufacturing lawn mowers, garden tractors, and other lawn and garden equipment used for home lawn and garden care. Also included are establishments primarily manufacturing snow blowers and throwers for residential use. Establishments primarily engaged in manufacturing farm machinery and equipment are classified in industry 3523; hand lawn and garden shears and pruners in industry 3421; and other garden handtools in industry 3423.

353 CONSTRUCTION, MINING, AND MATERIALS HANDLING MACHINERY AND EQUIPMENT

3531 **Construction Machinery and Equipment.**—Establishments primarily engaged in manufacturing heavy machinery and equipment used by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant type; dredging machinery; pavers; and power shovels. Establish-

ments primarily engaged in manufacturing mining equipment are classified in industry 3532, and well-drilling machinery in industry 3533.

3532 Mining Machinery and Equipment, Except Oilfield Machinery and Equipment.—Establishments primarily engaged in manufacturing heavy machinery and equipment used by the mining industries, such as coal breakers, mine cars, mineral cleaning machinery, concentration machinery, core drills, coal cutters, portable rock drills, and rock crushing machinery. Establishments primarily engaged in manufacturing construction machinery are classified in industry 3531; well-drilling machinery in industry 3533; and coal and ore conveyors in industry 3535.

3533 Oilfield Machinery and Equipment.—Establishments primarily engaged in manufacturing machinery and equipment for use in oil and gas fields or for drilling water wells.

3534 Elevators and Moving Stairways.—Establishments primarily engaged in manufacturing passenger or freight elevators, automobile lifts, dumbwaiters, and moving stairways. Establishments primarily engaged in manufacturing commercial conveyor systems and equipment are classified in industry 3535, and farm elevators in industry 3523.

3535 Conveyors and Conveying Equipment.—Establishments primarily engaged in manufacturing conveyors and conveying equipment for installation in factories, warehouses, mines, and other industrial and commercial establishments. Establishments primarily engaged in manufacturing passenger or freight elevators, dumbwaiters, and moving stairways are classified in industry 3534; and overhead traveling cranes and monorail systems in industry 3536.

3536 Hoists, Industrial Cranes, and Monorail Systems.—Establishments primarily engaged in manufacturing overhead traveling cranes, hoists, and monorail systems for installation in factories, warehouses, and other industrial and commercial establishments.

3537 Industrial Trucks, Tractors, Trailers, and Stackers.—Establishments primarily engaged in manufacturing industrial trucks, tractors, trailers, stackers (truck type), and related equipment, used for handling materials on floors and paved surfaces in and around industrial and commercial plants, depots, docks, and terminals. Establishments primarily engaged in manufacturing motor vehicles and motor vehicle type trailers are classified in SIC group 371; farm-type wheel tractors in industry 3523; wheel tractor shovel loaders and tracklaying tractors in industry 3531; and wood pallets and skids in industry 2448.

354 METALWORKING MACHINERY AND EQUIPMENT

3541 Machine Tools, Metal-Cutting Types.—Establishments primarily engaged in manufacturing machines, not supported in the hands of an operator when in use, that shape metal by cutting or use of electrical techniques; the rebuilding of such machine tools; and the manufacture of replacement parts for them. Metalworking, or primarily metalworking, machine tools designed primarily for home workshops are also included. Establishments primarily engaged in the manufacture of electric welding equipment are classified in industry 3623; portable power-driven handtools in industry 3546; and gas welding and cutting equipment and automotive maintenance equipment in industry 3549.

3542 Machine Tools, Metal-Forming Types.—Establishments primarily engaged in manufacturing machines, not supported in the hands of an operator while in use, for pressing, hammering, extruding, shearing, die-casting, or otherwise forming metal into shape. This industry also includes rebuilding such machine tools and manufacturing repair parts for them. Establishments primarily engaged in the manufacture of electric welding equipment are classified in industry 3623; portable power-driven handtools in industry 3546; rolling mill machinery and equipment in industry 3547; and gas welding and cutting equipment and automotive maintenance equipment in industry 3549.

3544 Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds.—Establishments commonly known as contract tool and die shops and primarily engaged in manufacturing, on a job or order basis, special tools and fixtures for use with machine tools, hammers, die-casting machines, and presses. The products of establishments classified in this industry include a wide variety of special toolings, such as dies; punches; die sets and components and subpresses; jigs and fixtures; and special checking devices. Establishments primarily engaged in manufacturing molds for die casting and foundry casting; metal molds for plasterworking, rubber working,

plastic working, glassworking and similar machinery are also included. Establishments primarily engaged in manufacturing molds for heavy steel ingots are classified in industry 3321.

3545 Machine Tool Accessories and Measuring Devices.—Establishments primarily engaged in manufacturing cutting tools, machinist's precision measuring tools, and attachments and accessories for machine tools and for other metalworking machinery not elsewhere classified. Establishments primarily engaged in manufacturing handtools, except power-driven types, are classified in SIC group 342.

3546 Power-Driven Handtools.—Establishments primarily engaged in manufacturing power-driven handtools, such as drills and drilling tools, pneumatic and snagging grinders, and electric hammers. Establishments primarily engaged in manufacturing automotive maintenance equipment are classified in industry 3549; those primarily manufacturing machine tools for metal cutting and metal forming (including home workshop tools) which are not supported in the hands of an operator, are classified in industries 3541 and 3542; and those primarily manufacturing power-driven heavy construction or mining handtools in SIC group 353.

3547 Rolling Mill Machinery and Equipment.—Establishments primarily engaged in manufacturing rolling mill machinery and processing equipment for metal production such as cold forming mills, structural mills, and finishing equipment.

3549 Metalworking Machinery, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing metalworking machinery, not elsewhere classified, such as gas cutting and welding equipment, wire fabricating machinery and equipment, except wiredrawing dies, and automotive maintenance machinery and equipment. Establishments primarily engaged in manufacturing metal-cutting machine tools are classified in industry 3541; metal-forming machine tools in industry 3542; power-driven handtools in industry 3546; and rolling mill machinery in industry 3547.

355 SPECIAL INDUSTRY MACHINERY, EXCEPT METALWORKING MACHINERY

3551 Food Products Machinery.—Establishments primarily engaged in manufacturing machinery for use by the food products and beverage manufacturing industries in the preparation, canning, or packaging of food products; and parts and attachments for such machinery. Establishments primarily engaged in manufacturing industrial refrigeration machinery are classified in SIC group 358.

3552 Textile Machinery.—Establishments primarily engaged in manufacturing machinery for the textile industries, including parts, attachments, and accessories. Establishments primarily engaged in manufacturing domestic or industrial sewing machines are classified in industry 3636.

3553 Woodworking Machinery.—Establishments primarily engaged in manufacturing machinery for sawmills, planing mills, cabinet and furniture makers, patternmakers, and veneer workers. Establishments primarily engaged in manufacturing handtools such as planes, axes, drawknives, and handsaws are classified in SIC group 342; and portable power-driven handtools in industry 3546.

3554 Paper Industries Machinery.—Establishments primarily engaged in manufacturing machinery for the pulp, paper, and paper product industries. Establishments primarily engaged in manufacturing printing trades machinery are classified in industry 3555.

3555 Printing Trades Machinery and Equipment.—Establishments primarily engaged in manufacturing machinery and equipment used by the printing and bookbinding trades. Establishments primarily engaged in manufacturing textile printing machinery are classified in industry 3552.

3559 Special Industry Machinery, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing special industry machinery, not elsewhere classified, such as smelting and refining equipment, cementmaking, clayworking, cotton ginning, glassmaking, hatmaking, incandescent lampmaking, leatherworking, paintmaking, rubberworking, cigar and cigarette making, tobacco working, shoemaking, and stoneworking machinery.

356 GENERAL INDUSTRIAL MACHINERY AND EQUIPMENT

3561 Pumps and Pumping Equipment.—Establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial use. Establish-

ments primarily engaged in manufacturing measuring and dispensing pumps for gasoline service station use are classified in industry 3586; and air and gas compressors in industry 3563.

3562 Ball and Roller Bearings.—Establishments primarily engaged in manufacturing ball and roller bearings (including ball or roller bearing pillow block, flange, take-up cartridge, and hanger units) and parts. Establishments primarily engaged in manufacturing bearings, except ball and roller, are classified in industry 3568.

3563 Air and Gas Compressors.—Establishments primarily engaged in manufacturing air and gas compressors for general industrial use. Establishments primarily engaged in manufacturing refrigeration compressors and compressing units are classified in industry 3585; and pumps and pumping equipment in industry 3561.

3564 Blowers and Exhaust and Ventilation Fans.—Establishments primarily engaged in manufacturing industrial and commercial blowers, industrial and commercial exhaust and ventilating fans, and attic fans. Establishments primarily engaged in manufacturing air-conditioning units are classified in industry 3585, and free air-circulating fans for use on desks, pedestals, or wall brackets as well as household window-type fans and roll-abouts, kitchen and household ventilating and exhaust fans in industry 3634.

3565 Industrial Patterns.—Establishments primarily engaged in manufacturing industrial patterns.

3566 Speed Changers, Industrial High Speed Drives, and Gears.—Establishments primarily engaged in manufacturing speed changers, industrial high-speed drives, and gears. Establishments primarily engaged in manufacturing these items for motor vehicles are classified in industry 3714, and for aircraft in industry 3728.

3567 Industrial Process Furnaces and Ovens.—Establishments primarily engaged in manufacturing industrial process furnaces, ovens, induction and dielectric heating equipment, and related devices.

3568 Mechanical Power Transmission Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing mechanical power transmission equipment and parts for industrial machinery. Establishments primarily engaged in manufacturing automotive, tank, and tractor power transmission equipment are classified in industry 3714; aircraft power transmission equipment in industry 3728; ball and roller bearings in industry 3562; and speed changers, industrial high speed drives, and gears in industry 3566.

3569 General Industrial Machinery and Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing machinery, equipment, and components for general industrial use, and for which no special classification is provided. Machine shops primarily engaged in producing machine and equipment parts, usually on a job or order basis, are classified in industry 3599.

357 OFFICE, COMPUTING, AND ACCOUNTING MACHINES

3572 and 3579 Typewriters and Office Machines, Not Elsewhere Classified.—The Typewriters Industry includes establishments primarily engaged in manufacturing typewriters and parts, including coded media typewriters and specialized composing typewriters. This industry is combined with the Office Machines, N.E.C., Industry which includes establishments primarily engaged in manufacturing office machines and devices not elsewhere classified. Establishments primarily engaged in manufacturing computing machines are classified in industry 3573, cash registers in industry 3574, and photocopy and microfilm equipment in industry 3861 (Photographic Equipment and Supplies).

The classification of establishments for which data are tabulated in this report is based upon the definitions and coding structure contained in the 1972 edition of the Standard Industrial Classification (SIC) Manual, published by the Office of Management and Budget, Executive Office of the President. The statistics for these industries as classified under the 1972 edition of the SIC manual were unchanged as to code number or content from the previous classification system. However, it was necessary to combine industry 3572, Typewriters, with industry 3579, Office Machines, N.E.C., to avoid disclosing the operation of individual companies.

3573 Electronic Computing Equipment.—Establishments primarily engaged in manufacturing electronic computers and peripheral equipment and/or major

logical components intended for use in electronic computer systems. Included are general-purpose electronic analog computers, electronic digital computers, military, ruggedized, and special purpose computers. The electronic computers may be used for data processing or may be incorporated as components of control equipment for industrial use, and as components of equipment used in weapons and weapons systems, space and oceanographic exploration, and transportation and other systems. Electronic computer systems contain high-speed arithmetic and program control units, on-line information storage devices, input/output equipment, terminals, data communication devices, and punched card equipment. Examples of input/output equipment are converters (card and/or tape) and readers and printers. Examples of storage devices are magnetic drums and disks magnetic cores and magnetic film memories. In addition to providing technical manuals necessary for the operation and maintenance of the equipment, establishments in this industry usually furnish general-purpose computer programs and basic operating systems programs needed for effective use of the computer system. Establishments primarily producing rebuilt electronic computers are also included in this industry. Establishments primarily engaged in manufacturing desk calculators, cash registers, accounting machines and similar equipment that are operator-paced are classified in industry 3574; electrical and electronic test equipment in industry 3825; industrial controls, including electronic, in industry 3622; and industrial process instruments in industry 3823.

3574 Calculating and Accounting Machines, Except Electronic Computing Equipment.—Establishments primarily engaged in manufacturing desk calculators, adding and accounting machines, cash registers, and similar equipment. Included are electronic calculating and accounting machines which, even when augmented by attachments or which include program control or have input/output capabilities, must be paced by operator intervention. Establishments primarily engaged in manufacturing electronic computing equipment are classified in industry 3573; typewriters in industry 3572; and office duplicating machines and devices, autographic registers, and other office machines in industry 3579.

3576 Scales and Balances, Except Laboratory.—Establishments primarily engaged in manufacturing weighing and force measuring machines and devices of all types, except those regarded as scientific apparatus for laboratory and experimental work, which are classified in industry 3811.

3579 Typewriters and Office Machines, Not Elsewhere Classified.—(See 3572.)

358 REFRIGERATION AND SERVICE INDUSTRY MACHINERY

3581 Automatic Merchandising Machines.—Establishments primarily engaged in manufacturing automatic merchandising units, also referred to as vending machines (excluding music, amusement, or gaming machines), and coin-operated mechanisms for such machines.

3582 Commercial Laundry, Dry Cleaning, and Pressing Machines.—Establishments primarily engaged in manufacturing laundry and dry cleaning equipment and pressing machines for commercial and industrial use. Establishments primarily engaged in manufacturing household laundry equipment, including coin-operated washers and driers, are classified in industry 3633.

3585 Air-Conditioning and Warm-Air Heating Equipment and Commercial and Industrial Refrigeration Equipment.—Establishments primarily engaged in manufacturing refrigeration equipment and systems and similar equipment for commercial and industrial use; complete air-conditioning units for domestic, commercial, and industrial use; and warm-air furnaces, except electric. Establishments primarily engaged in manufacturing soda fountains and beer dispensing equipment and humidifiers and dehumidifiers, except for rooms, are also classified in this industry. Establishments primarily engaged in manufacturing household refrigerators and home and farm freezers are classified in industry 3632; electric air space heaters in industry 3634; and electric warm-air furnaces and other electric comfort heating equipment in industry 3699.

3586 Measuring and Dispensing Pumps.—Establishments primarily engaged in manufacturing measuring and dispensing pumps commonly used in service and filling stations for dispensing gasoline, oil, and grease, including grease guns. Establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial use are classified in industry 3561.

3589 Service Industry Machines, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing machines and equipment, not elsewhere classified, for use in service industries, such as floor sanding machines, industrial vacuum cleaners, scrubbing machines, commercial cooking and food warming equipment, and commercial dishwashing machines. Establishments primarily engaged in manufacturing household electrical appliances are classified in group 363.

359 MISCELLANEOUS MACHINERY, EXCEPT ELECTRICAL

3592 Carburetors, Pistons, Piston Rings, and Valves.—Establishments primarily engaged in manufacturing carburetors, pistons, piston rings, and valves. Establishments primarily engaged in manufacturing metallic packing are classified in industry 3293; and those primarily engaged in manufacturing machine repair and equipment parts (except electric), on a job or order basis for others, are classified in industry 3599.

3599 Machinery, Except Electrical, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing machinery and parts except electrical, not elsewhere classified, such as amusement park equipment, pneumatic and hydraulic cylinders, and flexible metal hose and tubing. This industry also includes establishments primarily engaged in producing or repairing machine and equipment parts, not elsewhere classified, on a job or order basis for others.

36 ELECTRICAL AND ELECTRONIC MACHINERY, EQUIPMENT, AND SUPPLIES

This major group includes establishments engaged in manufacturing machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy. The manufacture of household appliances is included in this group, but industrial machinery and equipment powered by built-in or detachable electric motors is classified in SIC Major Group 35. Establishments primarily engaged in manufacturing instruments for indicating, measuring, and recording electrical quantities are classified in industry 3825.

361 ELECTRIC TRANSMISSION AND DISTRIBUTION EQUIPMENT

3612 Power, Distribution, and Specialty Transformers.—Establishments primarily engaged in manufacturing power, distribution, instrument, and specialty transformers. Establishments primarily engaged in manufacturing radio frequency or voice frequency transformers, coils, or chokes are classified in industry 3677, and resistance welder transformers in industry 3623.

3613 Switchgear and Switchboard Apparatus.—Establishments primarily engaged in manufacturing switchgear and switchboard apparatus. Important products of this industry include power switches, circuit breakers, power switching equipment, and similar switchgear for general industrial application; switchboards and cubicles, control and metering panels, power fuse mountings, and similar switchboard apparatus and supplies. Establishments primarily engaged in manufacturing industrial controls are classified in industry 3622, and those manufacturing current-carrying wiring devices in industry 3643.

362 ELECTRICAL INDUSTRIAL APPARATUS

3621 Motors and Generators.—Establishments primarily engaged in manufacturing electric motors (except starting motors) and power generators; motor generator sets; railway motors and control equipment; and motors, generators, and control equipment for gasoline, electric, and oil-electric buses and trucks. Establishments primarily engaged in manufacturing turbo-generators are classified in industry 3511, and starting motors and battery charging generators for internal combustion engines in industry 3694.

3622 Industrial Controls.—Establishments primarily engaged in manufacturing motor starters and controllers; control accessories, electronic controls, and other industrial controls. Establishments primarily engaged in manufacturing automatic temperature controls are classified in industry 3822, and industrial process instruments in industry 3823.

3623 Welding Apparatus, Electric.—Establishments primarily engaged in manufacturing electric welding apparatus and accessories. Establishments primarily engaged in coating welding wire from purchased wire or from wire drawn in the same establishment are also included. Establishments primarily engaged

in manufacturing gas welding apparatus are classified in industry 3549, and laser, electron beam, and ultrasonic welding machines and equipment in industry 3662.

3624 **Carbon and Graphite Products.**—Establishments primarily engaged in manufacturing lighting carbons; carbon, graphite, and metal-graphite brushes and brush stock; carbon or graphite electrodes for thermal and electrolytic uses; and other carbon, graphite, and metal-graphite products.

3629 **Electrical Industrial Apparatus, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing industrial and commercial electric apparatus and equipment, not elsewhere classified, such as blasting machines, and fixed and variable capacitors, condensers, and rectifiers for industrial applications. Establishments primarily engaged in manufacturing condensers, capacitors, and rectifiers for electronic end products are classified in SIC group 367.

363 HOUSEHOLD APPLIANCES

3631 **Household Cooking Equipment.**—Establishments primarily engaged in manufacturing household cooking equipment, such as stoves, ranges, and ovens, including both electric and nonelectric types. Establishments primarily engaged in manufacturing household cooking appliances, such as hot plates, grills, percolators, and toasters, are classified in industry 3634. Establishments primarily engaged in manufacturing commercial cooking equipment are classified in industry 3589.

3632 **Household Refrigerators and Home and Farm Freezers.**—Establishments primarily engaged in manufacturing household refrigerators and home and farm freezers. Establishments primarily engaged in manufacturing commercial and industrial refrigeration equipment, packaged room coolers, and all refrigeration compressor and condenser units are classified in industry 3585, and room dehumidifiers are classified in industry 3634.

3633 **Household Laundry Equipment.**—Establishments primarily engaged in manufacturing laundry equipment, such as washing machines, wringers, driers, and ironers, for household use. This industry also includes coin-operated washers and driers. Establishments primarily engaged in manufacturing commercial laundry equipment are classified in industry 3582.

3634 **Electric Housewares and Fans.**—Establishments primarily engaged in manufacturing electric housewares for heating, cooking, and other purposes; and electric fans, including ventilating and exhaust household-type fans. Important products of this industry include electric air heaters, electrically heated bed coverings, blenders, broilers, deep-fat fryers, flat irons, food mixers, hot plates, percolators and coffeemakers, roasters, toasters, desk and bracket fans, hassock or floor fans, window-type propeller fans, roll-about fans and household and kitchen ventilating and exhaust fans. Establishments primarily engaged in manufacturing industrial and commercial blowers, industrial and commercial exhaust and ventilating fans, and attic fans are classified in industry 3564.

3635 **Household Vacuum Cleaners.**—Establishments primarily engaged in manufacturing vacuum cleaners for household use. Establishments primarily engaged in manufacturing vacuum cleaners for industrial use are classified in industry 3589, and built-in vacuum cleaner systems in industry 1796.

3636 **Sewing Machines.**—Establishments primarily engaged in manufacturing sewing machines for domestic and industrial use.

3639 **Household Appliances, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing household appliances, not elsewhere classified, such as water heaters, dishwashers, and food waste disposal units.

364 ELECTRIC LIGHTING AND WIRING EQUIPMENT

3641 **Electric Lamps.**—Establishments primarily engaged in manufacturing electric bulbs, tubes, and related light sources. Important products of this industry include incandescent filament lamps, vapor and fluorescent lamps, photoflash and photoflood lamps, electrotherapeutic lamp units for ultra-violet and infra-red radiation, and other electric light sources. Establishments primarily engaged in manufacturing glass blanks for bulbs are classified in industry 3229; and lamp components, such as supports, filaments, lead-in wires, and cold cathode fluorescent lamp electrodes, in industry 3699.

3643 Current-Carrying Wiring Devices.—Establishments primarily engaged in manufacturing current-carrying wiring devices. Important products of this industry include attachment plugs and caps, convenience outlets, lamp sockets and receptacles, snap switches, conductor connectors, overhead trolley line material, rail bonds for both propulsion and signal circuits, lightning arrestors, and other lightning protective equipment.

3644 Noncurrent-Carrying Wiring Devices.—Establishments primarily engaged in manufacturing noncurrent-carrying wiring devices. Important products of this industry include conduits and fittings; electrical insulators and insulation materials, except porcelain insulators (industry 3264) and glass insulators (industry 3229); outlet, switch and fuse boxes; and pole line hardware.

3645 Residential Electric Lighting Fixtures.—Establishments primarily engaged in manufacturing residential electric lighting fixtures and equipment, fixed or portable. Establishments primarily engaged in producing glassware for lighting fixtures are classified in SIC Major Group 32; electric light bulbs, tubes, and related light sources in industry 3641; lampshades except glass and metal in industry 3999; and nonelectric fixtures and portable electric flashlights, lanterns, and similar lamps in industry 3648.

3646 Commercial, Industrial, and Institutional Electric Lighting Fixtures.—Establishments primarily engaged in manufacturing commercial, industrial, and institutional electric lighting fixtures. Establishments primarily engaged in producing glassware for lighting fixtures are classified in SIC Major Group 32; residential lighting fixtures in industry 3645; and vehicular lighting fixtures in industry 3647.

3647 Vehicular Lighting Equipment.—Establishments primarily engaged in manufacturing vehicular lighting equipment.

3648 Lighting Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing lighting fixtures and equipment, electric and nonelectric, not elsewhere classified, including flashlights and similar portable lamps, searchlights, ultraviolet lamp fixtures, and infra-red lamp fixtures. Establishments primarily engaged in manufacturing electric light bulbs, tubes, and related light sources are classified in industry 3641, and those producing glassware for lighting fixtures are classified in SIC Major Group 32.

365 RADIO AND TELEVISION RECEIVING EQUIPMENT, EXCEPT COMMUNICATION TYPES

3651 Radio and Television Receiving Sets, Except Communication Types.—Establishments primarily engaged in manufacturing electronic equipment for home entertainment, including auto radios and tape players. This industry also includes establishments primarily engaged in manufacturing public address systems and music distribution apparatus. Establishments primarily engaged in manufacturing phonograph records and prerecorded tape are classified in industry 3652. Establishments primarily engaged in manufacturing separate cabinets for home electronic equipment are classified in SIC Major Group 25.

3652 Phonograph Records and Prerecorded Magnetic Tape.—Establishments primarily engaged in manufacturing phonograph records and prerecorded magnetic tape. Establishments primarily engaged in manufacturing electronic equipment for home entertainment, except records and prerecorded magnetic tape, are classified in industry 3651.

366 COMMUNICATION EQUIPMENT

3661 Telephone and Telegraph Apparatus.—Establishments primarily engaged in manufacturing wire telephone and telegraph equipment and parts especially designed for telephone and telegraph use.

3662 Radio and Television Transmitting, Signaling, and Detection Equipment and Apparatus.—Establishments primarily engaged in manufacturing (1) radio and television broadcasting equipment; (2) electric communication equipment and parts, except telephone and telegraph; (3) electronic field detection apparatus, light and heat emission operating apparatus, object detection apparatus and navigational electronic equipment, and aircraft and missile control systems; (4) high-energy particle accelerator systems and equipment designed and sold as a complete package for radiation therapy, irradiation, radiographic inspection, and research (linear accelerators, betatrons, dynamotrons, Vandergraff generators, resonant transformers, insulating core transformers, etc.); (5) high-energy particle electronic equipment and accessories sold separately for the construction of linear accelerators, cyclotrons, synchrotrons, and other high-energy research installations (transmitters/modulators, accelerating wave-

guide structures, pulsed electron guns, vacuum systems, cooling systems, etc.); and (6) other electric and electronic communication and signaling products not elsewhere classified. Establishments primarily engaged in manufacturing transmitting tubes are classified in industry 3673.

367 ELECTRONIC COMPONENTS AND ACCESSORIES

3671 Radio and Television Receiving-Type Electron Tubes, Except Cathode Ray.—Establishments primarily engaged in manufacturing radio and television receiving-type electron tubes, except cathode ray tubes. Establishments primarily engaged in manufacturing television receiving-type cathode ray tubes are classified in industry 3672; transmitting tubes in industry 3673; and X-ray tubes in industry 3693.

3672 Cathode Ray Television Picture Tubes.—Establishments primarily engaged in manufacturing television receiving-type cathode ray tubes. Establishments primarily engaged in manufacturing other radio and television receiving-type electron tubes are classified in industry 3671; and transmitting tubes in industry 3673.

3673 Transmitting, Industrial, and Special Purpose Electron Tubes.—Establishments primarily engaged in manufacturing transmitting, industrial, and special purpose electron tubes. Establishments primarily engaged in manufacturing radio and television receiving tubes are classified in industry 3671; television receiving-type cathode ray tubes in industry 3672; and X-ray tubes in industry 3693.

3674 Semiconductors and Related Devices.—Establishments primarily engaged in manufacturing semiconductor and related solid state devices, such as semiconductor diodes and stacks, including rectifiers, integrated microcircuits (semiconductor networks), transistors, solar cells, and light sensing and emitting semiconductor (solid state) devices.

3675 Electronic Capacitors.—Establishments primarily engaged in manufacturing electronic capacitors.

3676 Resistors, for Electronic Applications.—Establishments primarily engaged in manufacturing resistors for electronic end products. Establishments primarily engaged in manufacturing resistors for telephone and telegraph apparatus are classified in industry 3661.

3677 Electronic Coils, Transformers, and Other Inductors.—Establishments primarily engaged in manufacturing electronic coils, transformers, and inductors. Establishments primarily engaged in manufacturing transformers and inductors for telephone and telegraph apparatus are classified in industry 3661; electric lamps in industry 3641; and semiconductor (solid state) and related devices in industry 3674.

3678 Connectors, for Electronic Applications.—Establishments primarily engaged in manufacturing electronic connectors. Establishments primarily engaged in manufacturing electronic capacitors are classified in industry 3675; and electronic coils, transformers, and other inductors in industry 3677.

3679 Electronic Components, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing electronic components, not elsewhere classified, such as receiving antennas, printed circuits, switches, and wave guides.

369 MISCELLANEOUS ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES

3691 Storage Batteries.—Establishments primarily engaged in manufacturing storage batteries.

3692 Primary Batteries, Dry and Wet.—Establishments primarily engaged in manufacturing primary batteries, dry or wet.

3693 Radiographic X-ray, Fluoroscopic X-ray, Therapeutic X-ray, and Other X-ray Apparatus and Tubes; Electromedical and Electrotherapeutic Apparatus.—Establishments primarily engaged in manufacturing radiographic X-ray, fluoroscopic X-ray, and therapeutic X-ray apparatus and tubes for medical, industrial, research and control applications. This industry also includes establishments primarily engaged in manufacturing electromedical and electrotherapeutic apparatus except electrotherapeutic lamp units for ultra-violet and infra-red radiation (industry 3641). Establishments primarily engaged in manufacturing radio receiving-type tubes are classified in industry 3671; television receiving cathode ray tubes in industry 3672; and transmitting tubes in industry 3673.

3694 Electrical Equipment for Internal Combustion Engines.—Establishments primarily engaged in manufacturing electrical equipment for internal combustion engines. Important products of this industry

include armatures, starting motors, alternators, and generators for automobiles and aircraft; and ignition apparatus for internal combustion engines, including spark plugs, magnetos, coils, and distributors.

3699 **Electrical Machinery, Equipment, and Supplies, Not Elsewhere Classified.**—Establishments primarily in manufacturing electrical machinery, equipment, and supplies, not elsewhere classified, such as appliance and extension cords, bells and chimes, and insect traps.

37 TRANSPORTATION EQUIPMENT

This major group includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water. Important products produced by establishments classified in this major group include motor vehicles, aircraft, guided missiles and space vehicles, ships, boats, railroad equipment, and miscellaneous transportation equipment such as motorcycles, bicycles, and snowmobiles. Establishments primarily engaged in manufacturing mobile homes are classified in industry 2451.

371 MOTOR VEHICLES AND MOTOR VEHICLE EQUIPMENT

3711 **Motor Vehicles and Car Bodies.**—This industry comprises establishments primarily engaged in the manufacture of passenger cars, passenger car bodies, trucks, buses, and wheeled combat vehicles. Complete car chassis and complete truck chassis, with or without cab, are also included in this industry. Establishments primarily engaged in the manufacture of trucks or buses on purchased chassis are classified in industry 3713; tanks, self-propelled weapons, and other military vehicles in industry 3795; and motor homes produced on purchased chassis in industry 3716.

3713 **Truck and Bus Bodies.**—Establishments primarily engaged in manufacturing truck and bus bodies for sale separately or for assembly on purchased chassis. Establishments primarily engaged in manufacturing complete trucks and buses are classified in industry 3711, stamped body parts for trucks and buses in industry 3465, and truck trailers and demountable cargo containers in industry 3715.

3714 **Motor Vehicle Parts and Accessories.**—Establishments primarily engaged in manufacturing motor vehicle parts and accessories, but not engaged in manufacturing complete motor vehicles or passenger car bodies. Establishments primarily engaged in manufacturing or assembling complete automobiles and trucks are classified in industry 3711, tires and tubes in industry 3011, automobile glass in SIC Major Group 32, automobile stampings in industry 3465, ignition systems in industry 3694, storage batteries in industry 3691, and carburetors, pistons, rings, and valves in industry 3592.

3715 **Truck Trailers.**—Establishments primarily engaged in manufacturing truck trailers, truck trailer chassis for sale separately, detachable trailer bodies (cargo containers) for sale separately, and detachable trailer (cargo container) chasis for sale separately.

3716 **Motor Homes Produced on Purchased Chassis.**—This industry comprises establishments primarily engaged in the manufacture of motor homes produced on purchased chassis. Establishments primarily engaged in the manufacture of motor homes produced on chassis of own manufacture are classified in industry 3711.

The Motor Homes Produced on Purchased Chassis is included for the first time in the 1977 census.

372 AIRCRAFT AND PARTS

3721 **Aircraft.**—Establishments primarily engaged in manufacturing or assembling complete aircraft. This industry also includes establishments primarily engaged in research and development on aircraft or in factory-type aircraft modification on a contract or fee basis. Establishments primarily engaged in manufacturing engines, propellers, and other aircraft parts and auxiliary equipment are classified in industries 3724 and 3728; and those producing guided missiles and space vehicles and parts are classified in SIC group 376.

3724 **Aircraft Engines and Engine Parts.**—Establishments primarily engaged in manufacturing aircraft engines and engine parts. Research and development on aircraft engines is included in this industry. Establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and parts are classified in industry 3764.

3728 **Aircraft Parts and Auxiliary Equipment, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing aircraft parts and auxiliary equip-

ment not elsewhere classified. Research and development on aircraft parts is included in this industry. Establishments primarily engaged in manufacturing or assembling complete aircraft are classified in industry 3721, aircraft engines and parts in industry 3724, aeronautical instruments in industry 3811, aeronautical electrical equipment in industry 3694, and guided missile and space vehicle parts and auxiliary equipment in industry 3769.

373 SHIP AND BOAT BUILDING AND REPAIRING

3731 Ship Building and Repairing.—Establishments primarily engaged in building and repairing all types of ships, barges, and lighters, whether propelled by sail or motor power or towed by other craft. This industry also includes the conversion and alteration of ships. Establishments primarily engaged in fabricating structural assemblies or components for ships, or subcontractors engaged in ship painting, joinery, carpentry work, electrical wiring installation, etc., are classified in other industries.

3732 Boat Building and Repairing.—Establishments primarily engaged in building and repairing all types of boats. Establishments primarily engaged in cleaning and storing boats and in the rental of dock space and yacht clubs are classified in nonmanufacturing industries. Establishments primarily engaged in manufacturing rubber and nonrigid plastic boats are classified in SIC Major Group 30.

374 RAILROAD EQUIPMENT

3743 Railroad Equipment.—Establishments primarily engaged in building and rebuilding locomotives (including frames and parts not elsewhere classified) of any type or gage; and railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service. This industry also includes establishments primarily engaged in manufacturing trackless trolley buses. Establishments primarily engaged in manufacturing mining cars are classified in industry 3532. Repair shops, owned and operated by railroads or local transit companies, rebuilding or repairing locomotives or cars, or building new locomotives or cars for their own account, are classified in SIC Major Groups 40 and 41.

375 MOTORCYCLES, BICYCLES, AND PARTS

3751 Motorcycles, Bicycles, and Parts.—Establishments primarily engaged in manufacturing motorcycles, bicycles, and similar equipment and parts. Establishments primarily engaged in assembling motorcycles or bicycles from purchased parts are also included in this industry. Establishments primarily engaged in manufacturing children's vehicles, except bicycles, are classified in industry 3944. Establishments primarily engaged in manufacturing golf carts and other similar personnel carriers are classified in industry 3799.

376 GUIDED MISSILES AND SPACE VEHICLES AND PARTS

3761 Guided Missiles and Space Vehicles.—Establishments primarily engaged in manufacturing complete guided missiles and space vehicles. Research and development and other services on or for guided missiles and space vehicles are included in this industry. Establishments primarily engaged in manufacturing guided missile and space vehicle propulsion units and propulsion unit parts are classified in industry 3764; space satellite and guided missile and space vehicle airborne and ground guidance, checkout, and launch electronic systems and components in industry 3662; and guided missile and space vehicle airframes, nose cones, and space capsules in industry 3769.

3764 Guided Missile and Space Vehicle Propulsion Units and Propulsion Unit Parts.—Establishments primarily engaged in manufacturing guided missile propulsion units and propulsion unit parts. Research and development on guided missile and space vehicle propulsion units and propulsion unit parts is also included in this industry.

3769 Guided Missile and Space Vehicle Parts and Auxiliary Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing guided missile and space vehicle parts and auxiliary equipment not elsewhere classified. Research and development on guided missile and space vehicle parts and auxiliary equipment, not elsewhere classified, is also included in this industry. Establishments primarily engaged in manufacturing navigational and guidance systems are classified in industry 3662.

379 MISCELLANEOUS TRANSPORTATION EQUIPMENT

3792 Travel Trailers and Campers.—Establishments primarily engaged in manufacturing travel trailers for attachment to passenger cars or other vehicles, pickup coaches (campers) or caps (covers) for mounting on pickup trucks and self-contained motor homes. Travel trailers are generally 35 feet long or less, 8 feet wide or less, and have storage facilities for water and waste. Establishments primarily engaged in manufacturing mobile homes are classified in industry 2451.

3795 Tanks and Tank Components.—Establishments primarily engaged in manufacturing or assembling complete tanks and specialized components for tanks. Establishments primarily engaged in manufacturing military vehicles other than tanks are classified in SIC group 371, and tank engines in industry 3519.

3799 Transportation Equipment, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing transportation equipment not elsewhere classified. Establishments primarily engaged in manufacturing industrial trucks, tractors, trailers, and stackers are classified in industry 3537, and children's vehicles except bicycles in industry 3944.

38 MEASURING, ANALYZING, AND CONTROLLING INSTRUMENTS; PHOTOGRAPHIC, MEDICAL, AND OPTICAL GOODS; WATCHES AND CLOCKS

This major group includes establishments engaged in manufacturing instruments (including professional and scientific) for measuring, testing, analyzing, and controlling, and their associated sensors and accessories; optical instruments and lenses; surveying and drafting instruments; surgical, medical, and dental instruments, equipment, and supplies; opthalmic goods; photographic equipment and supplies; and watches and clocks.

381 ENGINEERING, LABORATORY, SCIENTIFIC, AND RESEARCH INSTRUMENTS AND ASSOCIATED EQUIPMENT

3811 Engineering, Laboratory, Scientific, and Research Instruments and Associated Equipment.—Establishments primarily engaged in manufacturing engineering, laboratory, and scientific instruments, including nautical, navigational, aeronautical, surveying, and drafting equipment and instruments for laboratory work and scientific research (except optical instruments—industry 3832). Establishments primarily engaged in manufacturing surgical and medical instruments are classified in industry 3841; dental instruments and equipment in industry 3843; measuring, analyzing, and controlling instruments, including instruments for measuring electrical quantities and characteristics, in SIC group 382; watches and clocks in industry 3873; machinists' precision measuring tools in industry 3545; and measuring and dispensing pumps in industry 3586.

382 MEASURING AND CONTROLLING INSTRUMENTS

3822 Automatic Controls for Regulating Residential and Commercial Environments and Appliances.—Establishments primarily engaged in manufacturing temperature and related controls for heating and air-conditioning installations and refrigeration applications, which are electrically, electronically, or pneumatically actuated, and which measure and control variables such as temperature and humidity; and automatic regulators used as components of household appliances. Establishments primarily engaged in manufacturing industrial process controls are classified in industry 3823; motor control switches in industry 3622, switches for household appliances in industry 3643, and appliance timers in industry 3873.

3823 Industrial Instruments for Measurement, Display, and Control of Process Variables; and Related Products.—Establishments primarily engaged in manufacturing industrial instruments and related products for measuring, displaying (indicating and/or recording), transmitting, and controlling process variables in manufacturing, energy conversion, and public service utilities. These instruments operate mechanically, pneumatically, electronically, or electrically to measure process variables such as temperature, humidity, pressure, vacuum, combustion, flow, level, viscosity, density, acidity, alkalinity, specific gravity, gas and liquid concentration, sequence, time interval, mechanical motion, and rotation. Establishments primarily engaged in manufacturing electrical integrating meters are classified in industry 3825; residential and commercial comfort controls in industry 3822; all liquid-in-glass and bimetal thermometers and glass hydrometers in industry 3829; recorder charts in SIC group 275, and optical instruments in industry 3832.

3824 **Totalizing Fluid Meters and Counting Devices.**—Establishments primarily engaged in manufacturing totalizing (registering) meters, monitoring fluid flows, such as watermeters and gasmeters; and producers of mechanical and electromechanical counters and associated metering devices. Establishments primarily engaged in manufacturing electricity integrating meters and electronic frequency counters are classified in industry 3825; and industrial process instruments in industry 3823.

3825 **Instruments for Measuring and Testing of Electricity and Electrical Signals.**—Establishments primarily engaged in manufacturing instruments for measuring the characteristics of electricity and electrical signals, such as voltmeters, ammeters, watt-meters, watt-hour meters, demand meters, and equipment for testing the electrical characteristics of electrical, radio, and communication circuits and of internal combustion engines. Establishments primarily engaged in the manufacturing of electronic checkout, monitoring, evaluating, and other electronic support equipment for electronic navigational, radar, sonar, and other communications systems are classified in industry 3662.

3829 **Measuring and Controlling Devices, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing measuring and controlling devices, not elsewhere classified, including testing instruments to determine the physical properties of materials, nuclear instruments, aircraft engine instruments, and liquid-in-glass and bimetal thermometers.

383 OPTICAL INSTRUMENTS AND LENSES

3832 **Optical Instruments and Lenses.**—Establishments primarily engaged in manufacturing instruments that measure an optical property; apparatus, except photographic, that projects or magnifies, such as binoculars, prisms, and lenses; optical sighting and fire control equipment; and related analytical instruments. Establishments primarily engaged in manufacturing eyeglass lenses, frames, or fittings are classified in industry 3851; separate computers in industry 3573; and electronic tracking and fire control systems in industry 3662.

384 SURGICAL, MEDICAL, AND DENTAL INSTRUMENTS AND SUPPLIES

3841 **Surgical and Medical Instruments and Apparatus.**—Establishments primarily engaged in manufacturing medical, surgical, ophthalmic, and veterinary instruments and apparatus. Establishments primarily engaged in manufacturing surgical and orthopedic appliances are classified in industry 3842; and electrotherapeutic, electromedical, and X-ray apparatus in industry 3693.

3842 **Orthopedic, Prosthetic, and Surgical Appliances and Supplies.**—Establishments primarily engaged in manufacturing orthopedic, prosthetic, and surgical appliances and supplies, arch supports, and other foot appliances; fracture appliances, elastic hosiery, abdominal supporters, braces, and trusses; bandages; surgical gauze and dressings; sutures; adhesive tapes and medicated plasters; and personal safety appliances and equipment. Establishments primarily engaged in manufacturing surgical and medical instruments are classified in industry 3841. Establishments primarily engaged in manufacturing appliances and in the personal fitting to the individual prescription of a physician are classified in trade industries.

3843 **Dental Equipment and Supplies.**—Establishments primarily engaged in manufacturing artificial teeth, dental metals, alloys and amalgams, and a wide variety of equipment, instruments, and supplies used by dentists, dental laboratories, and dental colleges. Dental laboratories constructing artificial dentures, bridges, inlays, and other dental restorations on specifications from dentists are classified in industry 8072.

385 OPHTHALMIC GOODS

3851 **Ophthalmic Goods.**—Establishments primarily engaged in manufacturing opthalmic frames, lenses, and sunglass lenses. Establishments primarily engaged in manufacturing slit lamps are classified in industry 3841, and molded glass blanks in industry 3229. Establishments primarily engaged in grinding lenses and fitting glasses to prescription are classified in trade.

386 PHOTOGRAPHIC EQUIPMENT AND SUPPLIES

3861 **Photographic Equipment and Supplies.**—Establishments primarily engaged in manufacturing (1) photographic apparatus, equipment, parts, attachments, and accessories, such as still and motion

picture cameras and projection apparatus; photocopy and microfilm equipment; blueprinting and diazotype (white printing) apparatus and equipment; and other photographic equipment; and (2) sensitized film, paper, cloth, plates, and prepared photographic chemicals for use therewith. Establishments primarily engaged in manufacturing photographic paper stock (unsensitized), and paper mats, mounts, easels, and folders for photographic use are classified in SIC Major Group 26; photographic lenses in industry 3832; photographic glass in SIC Major Group 32; chemicals for technical purposes, not specifically prepared and packaged for use in photography, in SIC Major Group 28; and photographic flash, flood enlarger, and projection lamps in industry 3641.

387 WATCHES, CLOCKS, CLOCKWORK OPERATED DEVICES, AND PARTS

3873 Watches, Clocks, Clockwork Operated Devices, and Parts.—Establishments primarily engaged in manufacturing clocks (including electric), watches, watchcases, mechanisms for clockwork operated devices, and clock and watch parts. This industry includes establishments primarily engaged in assembling clocks and watches from purchased movements and cases. Establishments primarily engaged in manufacturing time clocks are classified in industry 3579, glass crystals in industry 3231, and unbreakable crystals in industry 3079.

39 MISCELLANEOUS MANUFACTURING INDUSTRIES

This major group includes establishments primarily engaged in manufacturing products not classified in any other manufacturing group. Industries in this group fall into the following categories: Jewelry, silverware and plated ware; musical instruments; toys, sporting and athletic goods; pens, pencils, and other office and artists' materials; buttons, costume novelties, miscellaneous notions; brooms and brushes; caskets; and other miscellaneous manufacturing industries.

391 JEWELRY, SILVERWARE, AND PLATED WARE

3911 Jewelry, Precious Metal.—Establishments primarily engaged in manufacturing jewelry and other articles worn on or carried about the person, made of precious metals with or without stones (including the setting of stones where used), including cigarette cases and lighters, vanity cases and compacts; trimmings for umbrellas and canes; and jewel settings and mountings. Establishments primarily engaged in manufacturing costume jewelry from nonprecious metals and other materials are classified in industry 3961.

3914 Silverware, Plated Ware, and Stainless Steel Ware.—Establishments primarily engaged in manufacturing flatware (including knives, forks, and spoons), hollowware, toiletware, ecclesiastical ware, and related products made of sterling silver; of metal plated with silver, gold, or other metal; of nickel silver; of pewter; or of stainless steel.

3915 Jewelers' Findings and Materials and Lapidary Work.—Establishments primarily engaged in manufacturing unassembled jewelry parts, and stock shop products such as sheet, wire, and tubing; and establishments of lapidaries primarily engaged in cutting, slabbing, tumbling, carving, engraving, polishing, or faceting stones from natural or manmade precious or semiprecious gem raw materials, either for sale or on a contract basis for the trade; in recutting, repolishing, and setting gem stones; or in cutting, drilling, and otherwise preparing jewels for instruments, dies, watches, chronometers, and other industrial uses. This industry includes the drilling, sawing, and peeling of real or cultured pearls, but does not include the manufacture of artificial pearls (industry 3961).

393 MUSICAL INSTRUMENTS

3931 Musical Instruments.—Establishments primarily engaged in manufacturing pianos, with or without player attachments; organs; other musical instruments; and parts and accessories for musical instruments.

394 TOYS AND AMUSEMENT, SPORTING, AND ATHLETIC GOODS

3942 Dolls.—Establishments primarily engaged in manufacturing dolls, doll parts, and doll clothing. Establishments primarily engaged in manufacturing stuffed toy animals are also included in this industry.

3944 Games, Toys, and Children's Vehicles; Except Dolls and Bicycles.—Establishments primarily engaged in manufacturing games and game sets for adults and children, and mechanical and nonmechanical toys. Important products of this industry include games such as chess, checkers, dominoes, puzzles, and other indoor games; and toys, such as toy furniture, doll carriages and carts, construction sets, mechanical trains, toy guns and air rifles, and other mechanical games and toys; baby carriages and strollers; children's velocipedes and tricycles, coaster wagons, play cars, sleds, and other children's outdoor wheel goods and vehicles, except bicycles (industry 3751). Establishments primarily engaged in manufacturing dolls are classified in industry 3942; and sporting and athletic goods for children and adults in industry 3949.

3949 Sporting and Athletic Goods, Not Elsewhere Classified.—Establishments primarily engaged in manufacturing sporting and athletic goods, not elsewhere classified, such as fishing tackle; golf and tennis goods; baseball, football, basketball, and boxing equipment; roller skates and ice skates; gymnasium and playground equipment; billiard and pool tables; and bowling alleys and equipment. Establishments primarily engaged in manufacturing athletic apparel are classified in SIC Major Group 23, small arms ammunition in industry 3482, and firearms in industry 3484.

395 PENS, PENCILS, AND OTHER OFFICE AND ARTISTS' MATERIALS

3951 Pens, Mechanical Pencils, and Parts.—Establishments primarily engaged in manufacturing pens, pen points, fountain pens, ballpoint pens, refill cartridges, porous-tipped felt tip markers, and parts.

3952 Lead Pencils, Crayons, and Artists' Materials.—Establishments primarily engaged in manufacturing lead pencils, pencil leads, and crayons; and materials and equipment for artwork, such as airbrushes, drawing tables and boards, palettes, sketch boxes, pantographs, artists' colors and waxes, pyrography goods, drawing inks, and drafting materials. Establishments primarily engaged in manufacturing mechanical pencils are classified in industry 3951, and drafting instruments in industry 3811.

3953 Marking Devices.—Establishments primarily engaged in manufacturing rubber and metal hand stamps, dies, and seals; steel letters and figures; and stencils for use in painting or marking. Establishments primarily engaged in manufacturing felt tip markers are classified in industry 3951.

3955 Carbon Paper and Inked Ribbons.—Establishments primarily engaged in manufacturing carbon paper for business machines, sales books, etc.; spirit or gelatin process and other stencil paper; and inked or carbon ribbons for business machines.

396 COSTUME JEWELRY, COSTUME NOVELTIES, BUTTONS, AND MISCELLANEOUS NOTIONS, EXCEPT PRECIOUS METAL

3961 Costume Jewelry and Costume Novelties, Except Precious Metal.—Establishments primarily engaged in manufacturing costume jewelry, costume novelties, and ornaments made of all materials, except precious metal, precious or semiprecious stones, and rolled gold plate and gold filled materials (industry 3911).

3962 Feathers, Plumes, and Artificial Trees and Flowers.—Establishments primarily engaged in manufacturing artificial trees (including Christmas trees), flowers, fruits, and foliage made from all materials except glass; in producing fancy feathers, plumes, and articles made principally of feathers and plumes. Establishments primarily engaged in manufacturing artificial flowers, fruits, and foliage from glass are classified in industry 3231.

3963 Buttons.—Establishments primarily engaged in manufacturing buttons, button parts, and button blanks and molds, of all materials except precious metal and precious or semiprecious stones (industry 3911).

3964 Needles, Pins, Hooks and Eyes, and Similar Notions.—Establishments primarily engaged in manufacturing notions, such as machine and hand needles, pins, hooks and eyes, eyelets, buckles, and slide and snap fasteners.

399 MISCELLANEOUS MANUFACTURING INDUSTRIES

3991 Brooms and Brushes.—Establishments primarily engaged in manufacturing household, industrial, and street sweeping brooms; and brushes, such as paintbrushes, toothbrushes, toilet brushes, and household and industrial brushes.

3993 **Signs and Advertising Displays.**—Establishments primarily engaged in manufacturing electrical, mechanical, cutout, or plate signs and advertising displays, including neon signs and advertising novelties. Sign painting shops doing business on a custom basis are classified in industry 7399. Establishments primarily engaged in manufacturing electric signal equipment are classified in industry 3662, and commercial lighting fixtures in industry 3646.

3995 **Burial Caskets.**—Establishments primarily engaged in manufacturing burial caskets and cases including shipping cases of wood or other material except concrete. Establishments primarily engaged in producing other goods for use by morticians are classified on the basis of the product, such as burial garments in SIC Major Group 23.

3996 **Linoleum, Asphalted-Felt-Base, and Other Hard-Surface Floor Coverings, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing linoleum, asphalted-felt-base, and other hard-surface floor coverings not elsewhere classified. Establishments primarily engaged in manufacturing rubber floor coverings are classified in industry 3069, and cork floor and wall tile in industry 2499.

3999 **Manufacturing Industries, Not Elsewhere Classified.**—Establishments primarily engaged in manufacturing miscellaneous fabricated products, including beauty shop and barbershop equipment; hairwork; tobacco pipes and cigarette holders; coin-operated amusement machines; matches; candles; lampshades; dressed and dyed furs; umbrellas; parasols and canes; and other articles not elsewhere classified.

APPENDIX D. Reporting Forms

This appendix contains reproductions of a representative selection of reporting forms used in the 1977 economic censuses, with emphasis on the census of manufactures.

These forms are described in section 7 of the Introduction.

DUE DATE: February 15, 1978

Form Approved: O.M.B. No. 41-R2751

FORM NC-X1 (Items 1–4)
(4-27-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

REPORT OF ORGANIZATION

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

Refer to this CENSUS FILE NUMBER in any correspondence pertaining to this report

CENSUS USE ONLY	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

(Please correct any errors in name and address including ZIP code)

ACT	CCS	DOC

Important – Please read

Please complete this report by February 15, 1978 and

RETURN YELLOW COPY TO – –

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

***NOTE** – Shaded boxes are for Bureau of the Census use only*

Item 1 – COMPANY OWNERSHIP OR CONTROL (DOMESTIC)

Does another U.S. (domestic) company own more than 50 percent of the voting stock of your company OR have the power to control the management and policies of your company?

1 ☐ YES – *Enter the following information on the owning or controlling company and go to item 2.*

2 ☐ NO – *Go to item 2*

Name of owning or controlling company	Home office address *(Number and street, city, State, and ZIP code)*	Employer Identification Number of owning or controlling company
		–

Percent of voting stock owned – *Mark (X) one* → 1 ☐ **Less than 50%** 2 ☐ **50%** 3 ☐ **More than 50%**

Item 2 – COMPANY OWNERSHIP OR CONTROL (FOREIGN)

Does a foreign entity (company, individual, government, etc.) own 10 percent or more of the voting stock or other equity rights of your company?

1 ☐ YES – *Enter the following information on the owning entity and go to item 3.*

2 ☐ NO – *Go to item 3*

Name of owning entity	Home office address *(City, country)*

Percent of ownership – *Mark (X) one* → 1 ☐ **Less than 10%** 2 ☐ **10–24%** 3 ☐ **25–49%** 4 ☐ **50%** 5 ☐ **51–99%** 6 ☐ **100%**

Item 3 – FOREIGN AFFILIATES

Does this enterprise alone, or with its domestic affiliates, own 10 percent or more of the voting stock of an incorporated foreign business enterprise, or an equivalent interest in an unincorporated foreign business enterprise, including ownership of real estate?

1 ☐ YES – *Go to item 4*

2 ☐ NO – *Go to item 4*

Item 4 – CERTIFICATION

Name of person to contact regarding this report	Address (if different from above address)	Telephone		
		Area code	Number	Extension

This report is substantially accurate.

Signature of authorized person	Title	Date

FORM NC-X1 (Item 5A)
(4-27-77)

U S DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES
REPORT OF ORGANIZATION

Refer to this CENSUS FILE NUMBER in any correspondence pertaining to this report

Item 5A – ESTABLISHMENTS OF YOUR COMPANY AND ITS SUBSIDIARIES

This item should include an up-to-date list of all establishments of your company and its subsidiaries, for which separate establishment reports are not required, for the 1977 Economic Censuses. Please correct any errors or omissions in the prelisted information in column (a) and complete columns (b) and (c) as indicated. Estimates are acceptable if book figures are not readily available. Please read the definitions and instructions on the reverse side before completing this item.

Line No.	(a) Employer Identification (EI) Number, establishment name, address of **physical** location (including ZIP code), and major activity. *Add store or plant number, if any, and correct any errors or omissions*	(b) 1977 Establishment data. *Report the number of employees and payroll for each establishment (including part year operations)*	(c) Status of establishment at end of 1977. *Mark (X) one box and complete as indicated*
	EMPLOYER IDENTIFICATION NO. ; Census use only: GEO, SC, TE NAME STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY; STATE; ZIP MAJOR ACTIVITY	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY; STATE; ZIP CODE 3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
Census use only	CENSUS FILE NO.; TO; IND; TAB; WT	CCS; NID	
	EMPLOYER IDENTIFICATION NO. ; Census use only: GEO, SC, TE NAME STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY; STATE; ZIP MAJOR ACTIVITY	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY; STATE; ZIP CODE 3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
Census use only	CENSUS FILE NO.; TO; IND; TAB; WT	CCS; NID	
	EMPLOYER IDENTIFICATION NO. ; Census use only: GEO, SC, TE NAME STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY; STATE; ZIP MAJOR ACTIVITY	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY; STATE; ZIP CODE 3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
Census use only	CENSUS FILE NO.; TO; IND; TAB; WT	CCS; NID	
	EMPLOYER IDENTIFICATION NO. ; Census use only: GEO, SC, TE NAME STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY; STATE; ZIP MAJOR ACTIVITY	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY; STATE; ZIP CODE 3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
Census use only	CENSUS FILE NO.; TO; IND; TAB; WT	CCS; NID	
	EMPLOYER IDENTIFICATION NO. ; Census use only: GEO, SC, TE NAME STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY; STATE; ZIP MAJOR ACTIVITY	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.)	1 [ ] In operation 2 [ ] Sold or leased → MO DAY YR NAME OF PURCHASER OR LESSEE NUMBER AND STREET CITY; STATE; ZIP CODE 3 [ ] Closed (no new owner or operator), dismantled, or destroyed on → MO DAY YR 4 [ ] Idle or inactive (but still owned) → 5 [ ] Other – *Describe* →
Census use only	CENSUS FILE NO.; TO; IND; TAB; WT	CCS; NID	

Page _____ of _____ pages

FORM NC-X1 (Item 5B)
(4-27-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES
REPORT OF ORGANIZATION

PLEASE ENTER YOUR CENSUS FILE NUMBER
(See front page)

_____

Item 5B – YOUR LISTING OF ADDITIONAL ESTABLISHMENTS AND SUBSIDIARIES

- **Column (a)** – List separately any establishments of your company and its subsidiaries located in the U.S. or any of its territories which are not accounted for on other report forms in this mailing package.
- **Instructions for questions (e) and (f)** – Answer question (e) for acquired establishments. Complete question (f) entering the date the establishment opened. If not yet in operation, enter the expected opening date and the expected employment.
- **Column (b)** – Complete this column for each listed establishment.
- **Column (c)** – Mark (X) the box which best describes the activity of each establishment. *See box codes*
- **Column (d)** – Describe major activity or list principal products or services.
- **NOTE:** Additional copies of **Item 5B** are available upon request to Bureau of the Census, 1201 East Tenth Street, Jeffersonville, Indiana 47132. If you prefer, you may use your own paper to list additional establishments; in such instances, however, please **follow the same format** as shown on the report form. Be sure to **enter** the item number, your company's name and address, and the Census File Number in the upper right-hand corner of each additional sheet.

DESCRIPTION AND CODES FOR COLUMN (c)

1 – Agricultural production
2 – Agricultural services
3 – Mining
4 – Construction
5 – Merchant wholesalers
6 – Commission agent/broker
7 – Communications
8 – Manufacturers' sales branches, manufacturers' sales offices
9 – Manufacturing
10 – Retail
11 – Retail concessions/departments in retail stores
12 – Transportation and public utilities
13 – Finance, insurance, or real estate
14 – Services
15 – Medical, legal, or educational
16 – Auxiliary establishments primarily providing service to your own or affiliated company rather than customers or clients such as storage warehouses and research laboratories
17 – Central Administrative Office: accounting, purchasing, legal activities for your own company
18 – Other – *Specify major activity in column (d) below*

Line No.	(a) Employer Identification (EI) Number, establishment name, your store or plant number, if any, and address of physical location (including ZIP code)	(b) 1977 establishment data *Report number of employees and payroll for each establishment (including part-year operations)*	(c) Kind of business activity in 1977 – Major activity *Mark (X) one box from the above descriptions*	(d) Description of major activity or principal products or services
	EMPLOYER IDENTIFICATION NUMBER ☐☐☐–☐☐☐☐☐☐☐☐☐ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.) Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	_____
	EMPLOYER IDENTIFICATION NUMBER ☐☐☐–☐☐☐☐☐☐☐☐☐ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.) Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	_____
	EMPLOYER IDENTIFICATION NUMBER ☐☐☐–☐☐☐☐☐☐☐☐☐ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.) Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	_____
	EMPLOYER IDENTIFICATION NUMBER ☐☐☐–☐☐☐☐☐☐☐☐☐ NAME / STORE OR PLANT NO. NUMBER AND STREET OF PHYSICAL LOCATION CITY / STATE / ZIP CODE (e) Was this establishment acquired from another company? ☐ YES ☐ NO — DATE ACQUIRED MONTH DAY YEAR NAME AND ADDRESS OF FORMER OWNER OR OPERATOR (f) Date establishment opened or is expected to open and expected employment. MONTH DAY YEAR EXPECTED EMPLOYMENT	Employees (during pay period including March 12, 1977) (Number) Payroll for 1st quarter of 1977 before deductions (Mil. Thou. Dol.) Total annual payroll for 1977 before deductions (Mil. Thou. Dol.) Census use only: CENSUS FILE NO. SC TO IND FORM; TAB WT CCS OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	_____

DUE DATE: 7 Days after Receipt

Form Approved: O.M.B. No. 41-S77010

FORM NC-X2

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

1977 ECONOMIC CENSUSES

LISTING OF ADDITIONAL ESTABLISHMENTS

In correspondence pertaining to this report, please refer to this Census File Number ▼

Employer Identification Number ▼

Please complete this form and RETURN TO

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

NOTE – Additional copies of this form are available upon request. If you prefer, list additional establishments on your own paper. BE SURE TO ENTER THE CENSUS FILE NUMBER in the upper right-hand corner of each additional sheet.

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Census use only	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code	ACT	CCS	DOC

Item 1 – **Does your organization or any of its subsidiaries have any establishments located in the United States or any of its territories which are not accounted for on other report forms in this mailing package?**

☐ YES – *Go to Item 2*
☐ NO – *Complete CERTIFICATION on reverse side and return report*

Item 2 – **LISTING OF ADDITIONAL ESTABLISHMENTS**

INSTRUCTIONS

Column (a) – Complete this column for each establishment that you list.

Column (b) – Mark (X) the box which best describes the principal activity of each establishment using the following code box descriptions:

1 – Agricultural production
2 – Agricultural services
3 – Mining
4 – Construction
5 – Merchant wholesaler
6 – Commission agent/broker
7 – Communications
8 – Manufacturers' sales branch/office
9 – Manufacturing
10 – Retail
11 – Retail concessions/departments in retail stores
12 – Transportation and public utilities
13 – Finance, insurance, or real estate
14 – Services
15 – Medical, legal, or educational
16 – Auxiliary establishments such as storage warehouses and research laboratories primarily providing service to your own or affiliated company rather than customers or clients
17 – Central administrative office, accounting, purchasing, legal activities for your own company
18 – Other – *Specify in column (c) below*

Column (c) – List in order of importance the principal products mined or made; kinds of wholesale or retail business; types of services provided; kinds of construction work done; or the types of crops grown or animals raised, etc.

Column (d) – Complete as indicated.

NOTE – Please return this report form whether or not you report additional establishments.

Employer Identification (EI) Number, establishment name, your store or plant number, if any, and address of **physical** location (including ZIP code) (a)	Principal activity *Mark (X) one box from the above descriptions* (b)	Description of products, business, services, etc. *List in order of importance* (c)	Operating status (d)
EMPLOYER IDENTIFICATION NUMBER – ; NAME; STORE OR PLANT NO.; NUMBER AND STREET OF PHYSICAL LOCATION; CITY; STATE; ZIP CODE; Census use only: CENSUS FILE NO.; SC; TO; IND; FORM; TAB; WT; CCS; OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	GEO	Date establishment opened or is expected to open: MONTH; DAY; YEAR; APPROXIMATE EMPLOYMENT. Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH; DAY; YEAR. NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
EMPLOYER IDENTIFICATION NUMBER – ; NAME; STORE OR PLANT NO.; NUMBER AND STREET OF PHYSICAL LOCATION; CITY; STATE; ZIP CODE; Census use only: CENSUS FILE NO; SC; TO; IND; FORM; TAB; WT; CCS; OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	GEO	Date establishment opened or is expected to open: MONTH; DAY; YEAR; APPROXIMATE EMPLOYMENT. Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH; DAY; YEAR. NAME AND ADDRESS OF FORMER OWNER OR OPERATOR
EMPLOYER IDENTIFICATION NUMBER – ; NAME; STORE OR PLANT NO.; NUMBER AND STREET OF PHYSICAL LOCATION; CITY; STATE; ZIP CODE; Census use only: CENSUS FILE NO.; SC; TO; IND; FORM; TAB; WT; CCS; OID	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐	GEO	Date establishment opened or is expected to open: MONTH; DAY; YEAR; APPROXIMATE EMPLOYMENT. Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH; DAY; YEAR. NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

Continued on reverse side

Page 2

Item 2 – LISTING OF ADDITIONAL ESTABLISHMENTS – Continued

Each establishment block below has the same fields. Column (a): Employer Identification (EI) Number, establishment name, your store or plant number, if any, and address of physical location (including ZIP code). Column (b): Principal activity — *Mark (X) one box from the above descriptions* — boxes 1–18. Column (c): Description of products business, services, etc. — *List in order of importance*. Column (d): Operating status.

EMPLOYER IDENTIFICATION NUMBER – | NAME | STORE OR PLANT NO. | NUMBER AND STREET OF PHYSICAL LOCATION | CITY | STATE | ZIP CODE

Census use only: CENSUS FILE NO. | SC | TO | IND | FORM | TAB | WT | CCS | OID | GEO

Operating status: Date establishment opened or is expected to open — MONTH | DAY | YEAR | APPROXIMATE EMPLOYMENT

Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH | DAY | YEAR

NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

EMPLOYER IDENTIFICATION NUMBER –
NAME | STORE OR PLANT NO.
NUMBER AND STREET OF PHYSICAL LOCATION
CITY | STATE | ZIP CODE
Census use only
CENSUS FILE NO. | SC | TO | IND | FORM
TAB | WT | CCS | OID | GEO
1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐
Date establishment opened or is expected to open — MONTH | DAY | YEAR | APPROXIMATE EMPLOYMENT
Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH | DAY | YEAR
NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

EMPLOYER IDENTIFICATION NUMBER –
NAME | STORE OR PLANT NO.
NUMBER AND STREET OF PHYSICAL LOCATION
CITY | STATE | ZIP CODE
Census use only
CENSUS FILE NO. | SC | TO | IND | FORM
TAB | WT | CCS | OID | GEO
1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐
Date establishment opened or is expected to open — MONTH | DAY | YEAR | APPROXIMATE EMPLOYMENT
Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH | DAY | YEAR
NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

EMPLOYER IDENTIFICATION NUMBER –
NAME | STORE OR PLANT NO.
NUMBER AND STREET OF PHYSICAL LOCATION
CITY | STATE | ZIP CODE
Census use only
CENSUS FILE NO. | SC | TO | IND | FORM
TAB | WT | CCS | OID | GEO
1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐
Date establishment opened or is expected to open — MONTH | DAY | YEAR | APPROXIMATE EMPLOYMENT
Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH | DAY | YEAR
NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

EMPLOYER IDENTIFICATION NUMBER –
NAME | STORE OR PLANT NO.
NUMBER AND STREET OF PHYSICAL LOCATION
CITY | STATE | ZIP CODE
Census use only
CENSUS FILE NO. | SC | TO | IND | FORM
TAB | WT | CCS | OID | GEO
1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐
Date establishment opened or is expected to open — MONTH | DAY | YEAR | APPROXIMATE EMPLOYMENT
Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH | DAY | YEAR
NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

EMPLOYER IDENTIFICATION NUMBER –
NAME | STORE OR PLANT NO.
NUMBER AND STREET OF PHYSICAL LOCATION
CITY | STATE | ZIP CODE
Census use only
CENSUS FILE NO. | SC | TO | IND | FORM
TAB | WT | CCS | OID | GEO
1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐
Date establishment opened or is expected to open — MONTH | DAY | YEAR | APPROXIMATE EMPLOYMENT
Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH | DAY | YEAR
NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

EMPLOYER IDENTIFICATION NUMBER –
NAME | STORE OR PLANT NO.
NUMBER AND STREET OF PHYSICAL LOCATION
CITY | STATE | ZIP CODE
Census use only
CENSUS FILE NO. | SC | TO | IND | FORM
TAB | WT | CCS | OID | GEO
1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐
Date establishment opened or is expected to open — MONTH | DAY | YEAR | APPROXIMATE EMPLOYMENT
Was this establishment acquired from another company? ☐ YES ☐ NO → DATE ACQUIRED: MONTH | DAY | YEAR
NAME AND ADDRESS OF FORMER OWNER OR OPERATOR

Item 3 CERTIFICATION

Name of person to contact regarding this report | Address (if different from label address) | Telephone: Area code | Number | Extension

This report *(including attached continuation pages)* is substantially accurate and has been prepared in accordance with instructions.

Signature of authorized person | Title | Date

FORM NC-X2

PENALTY FOR FAILURE TO REPORT
DUE DATE: FEBRUARY 15, 1978

O.M.B. No. 41-S77014; Approval Expires December 31, 1978

FORM NC-X3 (4-4-77) — U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

GENERAL SCHEDULE

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number → NC-X3

Employer Identification Number →

Please complete this form and RETURN TO → BUREAU OF THE CENSUS, 1201 East Tenth Street, Jeffersonville, Indiana 47132

Census use only	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

KEEP THIS COPY FOR YOUR FILES

PLEASE COMPLETE AND RETURN THE FORM WHICH SHOWS YOUR NAME AND ADDRESS

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Important–Please read

The data reported on this form should cover only the establishment shown on the address label. However, if more than one establishment (location) was operated under the same Employer Identification Number in 1977, consolidate data for all such locations in items 5 and 6. In item 1 enter the location of the MAIN establishment. In item 12c provide information separately for each location, INCLUDING the main establishment.

Item 1 – PHYSICAL LOCATION OF ESTABLISHMENT – In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location **which may differ from the mailing address.** *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.*
Mark (X) for a, b, c, and d if same as mailing label; if different show corrections.
Same as mailing label ☐ OR ▶

b. Name of city, town, village, borough, etc. of physical location
Same as mailing label ☐ OR ▶

c. State
Same as mailing label ☐ OR ▶

d. ZIP code
Same as mailing label ☐ OR ▶

e. Type of municipality indicated in 1b — *Mark (X) one*
1 ☐ City 2 ☐ Town 3 ☐ Village 4 ☐ Borough 5 ☐ Township 6 ☐ Unincorporated 7 ☐ Other – *Specify* _____ 8 ☐ Don't know

f. **Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1b?**
1 ☐ Yes 2 ☐ No 3 ☐ No legal boundaries 4 ☐ Don't know
NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which the post office takes its name.

g. Name of county (Louisiana parish) of physical location

Item 2 – EMPLOYER IDENTIFICATION NUMBER
Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?
☐ YES
☐ NO – *Enter current EI number* → ☐☐–☐☐☐☐☐☐☐ *(9 digits)*

Item 3 – OPERATIONAL STATUS
a. Mark (X) the **ONE** box which best describes this establishment at the end of 1977.
001 1 ☐ In operation
2 ☐ Temporarily or seasonally inactive
3 ☐ Ceased operation – *Give date* →
4 ☐ Sold or leased to another operator – *Give date AND name, etc.* →

Figures only

Month	Day	Year

Name of new owner or operator
Number and street
City | State | ZIP code

b. **How many months during 1977 did your firm or organization actively operate this establishment?** — Number of months: 002

Item 4 – ORGANIZATIONAL STATUS
a. Mark (X) the **ONE** box which best describes this establishment during 1977.
003 1 ☐ Individual proprietorship
2 ☐ Partnership
8 ☐ Cooperative association
5 ☐ Governmental – *Specify* _____
0 ☐ Corporation (other than specified above)
9 ☐ Other – *Specify* _____

b. **Was all or part of the income of this establishment or organization exempt from Federal income taxes under Section 501 or 521 of the Internal Revenue Code?** 004 1 ☐ YES 2 ☐ NO

Important–Please read

Dollar figures should be reported as illustrated. Please be careful to enter the figures in the **correct columns.** See example below:

EXAMPLE: If figure is **$1,125,628.28** →

	Millions (000)	Thousands (000)	Dollars (000)
• **PREFERRED method**	1	125	
Acceptable method	1	125	628

Item 5 – DOLLAR VOLUME

	Mil.	Thou.	Dol.
a. Sales of merchandise and other operating receipts or total revenue in 1977 **EXCLUDING** sales (or other) taxes collected	010		
b. Were sales (or other) taxes collected from customers and forwarded to taxing authorities? 011 1 ☐ YES 2 ☐ NO			
If "YES," report the amount of such taxes (*DO NOT include taxes in 5a above*)	012		
c. **TOTAL DOLLAR VOLUME** including sales (or other) taxes (Sum of 5a and 5b above) →	013		
d. Expenses in 1977	040		

Item 6 – PAYROLL AND EMPLOYMENT

	Mil.	Thou.	Dol.
a. Payroll			
(1) Total **ANNUAL** payroll in 1977 before deductions	030		
(2) Payroll for the **FIRST QUARTER** of 1977	031		

b. **Employment** – Number of paid employees for the pay period including the 12th of the month (Include both full- and part-time employees)

032 MAR	033 MAY	034 AUG	035 NOV

Item 7 – SOURCE OF SALES, RECEIPTS, OR REVENUE – List below the principal lines of merchandise sold, kinds of construction work done, products produced, or services provided and indicate the approximate percentage each was of the total receipts or revenue in 1977.

Source	Percentage of receipts or revenue	Source	Percentage of receipts or revenue
	%		%
	%		%
	%		%
	%		%

Make sure all items on this page have been completed and continue to **NEXT PAGE**

Page 2

Item 8 – BUSINESS OR ACTIVITY – Mark (X) the **ONE** box which best describes the principal activity during the past year. 070

Census use only

- ☐ **AGRICULTURAL PRODUCTION**
- ☐ **MINERALS EXTRACTION OR ORE PROCESSING**
- ☐ **MANUFACTURING**
- ☐ **MOTOR CARRIER (ICC REGULATED)**
- ☐ **MOTOR CARRIER (EXCEPT ICC REGULATED)**

CONSTRUCTION

- ☐ Building construction – General contractor
- ☐ Other construction – General contractor
- ☐ Special trade contractor (electricians, carpenters, painters, etc.)
- ☐ Land developer and subdivider
- ☐ Real estate – *Specify activity* _____

WHOLESALE TRADE

- ☐ Merchant wholesaler
- ☐ Agent or broker
- ☐ Other type of wholesaler – *Specify* _____

RETAIL TRADE

- ☐ Selling at this establishment
- ☐ Mail order (catalog selling)
- ☐ House-to-house (direct selling)
- ☐ Operating merchandise vending machines
- ☐ Other type of retailer – *Specify* _____
- ☐ **Other – *Specify activity*** _____

Item 9 – If "Manufacturing" is marked in item 8, list the primary materials consumed in producing the manufactured products.

Item 10 – CLASS OF CUSTOMER

To whom do you sell most of your products or provide your services?

- ☐ Retail or wholesale establishments
- ☐ Construction contractors
- ☐ General public (household consumers and individuals)
- ☐ Institutional, industrial, commercial, professional, government, and farm users
- ☐ Other – *Specify* _____

Item 11 – OWNERSHIP OR CONTROL

Enter the company name and address (street name and number, city, State, ZIP code) and EI Number. If more space is needed to list companies, attach a separate sheet.

a. Is this company owned or controlled by another company? 1 ☐ YES → 2 ☐ NO

Owning or controlling company — EI No. *(9 digits)* ☐☐☐–☐☐☐☐☐☐

b. Does this company own or control any other company or companies? 1 ☐ YES → 2 ☐ NO

Owned or controlled company — EI No. *(9 digits)* ☐☐☐–☐☐☐☐☐☐

Item 12 – LOCATIONS OF OPERATION

a. Were the operations under the EI Number shown in the mailing label (or as corrected in item 2) conducted at more than one location during 1977? (Including all selling or service locations and any other facilities such as warehouses, administrative offices, etc.)

1 ☐ YES – *Answer (b) and (c)*
2 ☐ NO – *SKIP to item 13*

b. At how many separate locations were these operations conducted during 1977? — Number of locations

c. List each location – including main location. If more space is needed, attach a separate sheet providing the same information required below.

Census use only	Physical location of each operation *Name, address and ZIP code* (a)				1977 sales and receipts and annual and 1st quarter payrolls *Totals should equal items 5a and 6a(1) and (2)* (b)				Number of paid employees for the pay period including the 12th of each month *Totals should equal corresponding entries in item 6b* (c)		Primary kind of business or activity of each location *Describe* (d)
						Mil.	Thou.	Dol.			
080	Name				Sales and receipts 081				084 MAR	085 MAY	
	Number and street of physical location				Total annual payroll 082				086 AUG	087 NOV	
	City	State	ZIP code		1st quarter payroll 083						088 Census use only
080	Name				Sales and receipts 081				084 MAR	085 MAY	
	Number and street of physical location				Total annual payroll 082				086 AUG	087 NOV	
	City	State	ZIP code		1st quarter payroll 083						088 Census use only
080	Name				Sales and receipts 081				084 MAR	085 MAY	
	Number and street of physical location				Total annual payroll 082				086 AUG	087 NOV	
	City	State	ZIP code		1st quarter payroll 083						088 Census use only
080	Name				Sales and receipts 081				084 MAR	085 MAY	
	Number and street of physical location				Total annual payroll 082				086 AUG	087 NOV	
	City	State	ZIP code		1st quarter payroll 083						088 Census use only
080	Name				Sales and receipts 081				084 MAR	085 MAY	
	Number and street of physical location				Total annual payroll 082				086 AUG	087 NOV	
	City	State	ZIP code		1st quarter payroll 083						088 Census use only
080	Name				Sales and receipts 081				084 MAR	085 MAY	
	Number and street of physical location				Total annual payroll 082				086 AUG	087 NOV	
	City	State	ZIP code		1st quarter payroll 083						088 Census use only
	TOTALS (Sum of entries should equal corresponding entries in items 5a and 6 on page 1)				Sales and receipts				MAR	MAY	
					Total annual payroll				AUG	NOV	
					1st quarter payroll						

Item 13 – CERTIFICATION

Name of person to contact regarding this report	Telephone: Area code	Number	Extension
Address – *Number and street*			
City	State	ZIP code	

This report is substantially accurate and has been prepared in accordance with instructions.

Period covered → From: Mo. Day Year — To: Mo. Day Year

Signature of authorized person

Title — Date

FORM NC-X3 (4-4-77)

PENALTY FOR FAILURE TO REPORT
DUE DATE: FEBRUARY 15, 1978

Form Approved O.M.B No. 41-S77017

FORM NC-X6 (0600)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

CENTRAL ADMINISTRATIVE OFFICE OR AUXILIARY ESTABLISHMENT

Important – PLEASE READ ALL ACCOMPANYING INSTRUCTIONS

NOTICE – Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report, please refer to this Census File Number

NC-X6 (0600)

Employer Identification Number

Please complete this form and RETURN TO

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

Census use only

Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Item 1 – PHYSICAL LOCATION OF ESTABLISHMENT – In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location **which may differ from the mailing address.** *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.*
Mark (X) for a, b, c, and d if same as mailing label; if different show corrections.
Same as mailing label [ ] OR ▶

b. Name of city, town, village, borough, etc., of physical location
Same as mailing label [ ] OR ▶

c. State
Same as mailing label [ ] OR ▶

d. ZIP code
Same as mailing label [ ] OR ▶

e. Type of municipality indicated in 1b (*Mark (X) one*)
1 [ ] City 4 [ ] Borough 7 [ ] Other – *Specify* _____
2 [ ] Town 5 [ ] Township
3 [ ] Village 6 [ ] Unincorporated 8 [ ] Don't know

f. **Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1b?**
1 [ ] Yes
2 [ ] No
NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which the post office takes its name.
3 [ ] No legal boundaries
4 [ ] Don't know

g. Name of county (Louisiana parish) of physical location

Item 2 – EMPLOYER IDENTIFICATION NUMBER
Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?
[ ] YES
[ ] NO – *Enter current EI number* ▶ [ ][ ]–[ ][ ][ ][ ][ ][ ][ ] *(9 digits)*

Item 3 – OPERATIONAL STATUS
a. Mark (X) the **ONE** box which best describes this establishment at the end of 1977.
001
1 [ ] In operation
2 [ ] Temporarily or seasonally inactive
3 [ ] Ceased operation – *Give date* ▶
4 [ ] Sold or leased to another operator – *Give date AND name, etc.* ▶

Figures only

Month	Day	Year

Name of new owner or operator
Number and street
City | State | ZIP code

b. **How many months during 1977 did your firm or organization actively operate this establishment?**
Number of months: 002

Item 4 – ORGANIZATIONAL STATUS
a. Mark (X) the **ONE** box which best describes this establishment during 1977.
003
1 [ ] Individual proprietorship
2 [ ] Partnership
8 [ ] Cooperative association
5 [ ] Governmental – *Specify* _____
0 [ ] Corporation (other than specified above)
9 [ ] Other – *Specify* _____

b. **Was all or part of the income of this establishment or organization exempt from Federal income taxes under Section 501 or 521 of the Internal Revenue Code?**
004
1 [ ] YES
2 [ ] NO

Item 5 – PRINCIPAL ACTIVITIES OF YOUR COMPANY SERVICED BY THIS ESTABLISHMENT IN 1977

a. **Does this establishment perform management, general administrative functions, or other supporting services PRIMARILY for establishments of this company (rather than for other business firms or for the general public)?** ("Company" refers to the parent firm and all its subsidiaries under common ownership or control.)
050
1 [ ] YES – *Complete items 5b, c, and d*
2 [ ] NO – *SKIP to item 6*

b. **Does this establishment perform these management administrative functions or services for more than one establishment of this company?**
051
1 [ ] YES
2 [ ] NO

c. Mark (X) the **principal** kind of business or industrial activity of the establishments of this company that are managed or serviced by this central office or auxiliary.
052
1 [ ] Manufacturing
2 [ ] Construction
3 [ ] Mining and mineral industries
4 [ ] Manufacturer sales branches or other wholesale operations
5 [ ] Retail stores
6 [ ] Other – *Describe* _____

d. List in order of importance, the **principal** products made, kinds of retail or wholesale business operated, types of services rendered, or construction activities performed by the establishments that are managed or serviced by this central office or auxiliary.
(1)
(2)

Important – Please read

Dollar figures should be reported as illustrated. Please be careful to enter the figures in the **correct columns.** See example below:

EXAMPLE: If figure is **$1,125,628.28** ▶

	Millions (000)	Thousands (000)	Dollars (000)
• PREFERRED method	1	125	
Acceptable method	1	125	628

Item 6 – EMPLOYMENT

	Number
a. Employment by function for pay period including March 12	060
(1) Centralized administration	
(2) Research, development, and testing	061
(3) Warehousing	062
(4) Electronic data processing	063
(5) Sales to customers directly from this location	064
(6) Trading stamp redemption	065
(7) Other – *Specify*	066
(8) **TOTAL employment (Sum of lines (1) through (7))** ▶	067
b. Total employment for pay period including the 12th of the following months –	068
(1) May	
(2) August	069
(3) November	070

Item 7 – PAYROLL

	Mil.	Thou.	Dol.
a. **TOTAL FIRST QUARTER payroll before deductions** ▶ 071			
b. **TOTAL ANNUAL PAYROLL before deductions** ▶ 072			
c. Of the total annual payroll reported in item 7b above, how much was for delivery personnel (including drivers, driver salesmen, etc.), who are engaged in transporting the merchandise of this company, and who are employed at this establishment? ▶ 073			

Item 8 – EMPLOYER COSTS FOR FRINGE BENEFITS

a. Required by law 080			
b. Other fringe benefits 081			
c. **TOTAL fringe benefits (Sum of lines a and b)** ▶ 082			

Please continue on page 2 ▶

Item 9 – BILLINGS TO RETAIL STORES OF THIS COMPANY 090

a. Did this establishment have billings to retail stores of this company during 1977? 1 [ ] YES – *Go to b* 2 [ ] NO – *SKIP to item 10*

	Mil.	Thou.	Dol.
b. Total billings by this establishment in 1977 to retail stores of this company. → 091			

EXAMPLE FOR REPORTING PERCENTS — If figure is **38.76%** of total sales:

	Whole percent
• Report whole percents →	39%
Not acceptable →	38.76%

Item 10 – SALES TO CUSTOMERS OUTSIDE THIS COMPANY 100

a. Did this establishment have sales to customers outside this company during 1977? 1 YES – *Go to b* 2 NO – *SKIP to item 11*

	Mil.	Thou.	Dol.
b. (1) Sales and other operating receipts (exclude sales or other taxes collected) 101			
(2) Were sales (or other) taxes collected from customers and forwarded to taxing authorities? 102 1 YES 2 NO			
If "YES," report amount of taxes *(DO NOT include in 10b(1))* → 103			
(3) TOTAL sales and other operating receipts (including sales or other taxes collected) (Sum of lines (1) and (2)) → 104			

	Whole percent
c. Of the value of sales and other operating receipts reported in item 10b(1), report the approximate percentage of these receipts to –	
(1) General public (households, consumers and individuals) 105	%
(2) Other, include retailers; wholesalers; institutional, industrial, commercial, professional, and farm users (for use in farm production); and government 106	

d. List the **principal** products sold or services rendered by this establishment to customers outside this company, and their approximate percent of 1977 sales and receipts as reported in item 10b(1) above.

Principal products sold or services rendered	Percent of sales and receipts in 1977
(1)	%
(2)	%

Item 11 – CAPITAL EXPENDITURES (EXCLUDE LAND AND MINERAL RIGHTS) 110

a. Did this establishment make capital expenditures during 1977? 1 YES – *Go to b* 2 NO – *SKIP to item 12*

	Mil.	Thou.	Dol.
b. Type of capital expenditures			
(1) New structures and additions to plant 111			
(2) New automobiles, trucks, trailers, etc., for highway use 112			
(3) New computers and peripheral data processing equipment 113			
(4) All other expenditures for new machinery and equipment 114			
(5) Used plant and used equipment acquired from others 115			
(6) TOTAL capital expenditures (Sum of lines (1) through (5)) → 116			

Item 12 – GROSS VALUE OF DEPRECIABLE ASSETS (EXCLUDE LAND) 120

a. Did this establishment maintain depreciable assets during 1977? 1 YES – *Go to b* 2 NO – *SKIP to item 13*

	Mil.	Thou.	Dol.
b. Gross value of depreciable assets, end of 1976			
(1) Buildings and structures 121			
(2) Machinery and equipment 122			
(3) TOTAL (Sum of lines (1) and (2)) → 123			
c. Gross value of depreciable assets, end of 1977			
(1) Buildings and structures 124			
(2) Machinery and equipment 125			
(3) TOTAL (Sum of lines (1) and (2)) → 126			

Item 13 – DEPRECIATION CHARGES 130

a. Did this establishment maintain depreciation accounts during 1977? 1 YES – *Go to b* 2 NO – *SKIP to item 14*

	Mil.	Thou.	Dol.
b. TOTAL depreciation charges against assets during 1977 → 131			

Item 14 – SELECTED OPERATING EXPENSES

(1) Cost of purchased electricity 140			
(2) Cost of fuels consumed 141			
(3) Cost of purchased communication services 142			
(4) Cost of purchased repair services for buildings and structures 143			
(5) Cost of purchased repair services for machinery and equipment 144			

Item 15 – RENTAL PAYMENTS (EXCLUDE LAND) 150

a. Did this establishment make rental payments during 1977? 1 YES – *Go to b* 2 NO – *SKIP to item 16*

	Mil.	Thou.	Dol.
b. Rental payments made for this establishment			
(1) For use of buildings and structures 151			
(2) For use of machinery and equipment 152			
(3) TOTAL rental payments (Sum of lines (1) and (2)) → 153			

Item 16 – COST OF RESEARCH AND DEVELOPMENT 160

a. Did this establishment perform research and development during 1977? 1 YES – *Go to b* 2 NO – *SKIP to item 17*

	Mil.	Thou.	Dol.
b. Type of research and development performed			
(1) Federal contracts and subcontracts 161			
(2) With own funds and nonfederal sources 162			
(3) TOTAL cost of research and development (Sum of lines (1) and (2)) → 163			

Item 17 – INVENTORIES AND METHOD OF VALUATION 170

a. Did this establishment have inventories during 1977? 1 YES – *Go to b* 2 NO – *SKIP to item 18*

	Mil.	Thou.	Dol.
b. Value of inventories of this establishment			
(1) End of 1976 171			
(2) End of 1977 172			

	Inventories end of 1977
	Whole percent
c. If the dollar value of inventories at the end of 1977 exceeds $25(000), report the method of valuation below –	
(1) Cost	
(a) First-in, First-out (FIFO) 180	%
(b) Last-in, First-out (LIFO) 181	%
(c) Average cost 182	%
(d) Specific or actual cost 183	%
(e) Standard cost 184	%
(f) Other – *Specify* 185	%
(2) Market 186	
(a) Market used because lower than cost	%
(b) Market always used 187	%
(3) Other – *Specify* 188	%
(4) TOTAL (Sum of lines (1) through (3)) →	100%

Item 18 – CONSISTENCY CHECK 190

a. Were any of the above data (items 6–17) also reported in any other 1977 Census establishment report form of this company, i.e., in the Census Forms MA-, MC-, CB-, or CC- series? 1 YES – *Go to b* 2 NO – *SKIP to item 19*

b. Please give the 10-digit CENSUS FILE NUMBER of that report 191 CFN

Remarks *This space may be used for any explanation that may be essential in understanding your reported data.*

Item 19 – CERTIFICATION

Name of person to contact regarding this report	Telephone: Area code	Number	Extension
Address – *Number and street*			
City	State	ZIP code	

This report is substantially accurate and has been prepared in accordance with instructions.

Period covered →	From: Mo.	Day	Year	To: Mo.	Day	Year

Signature of authorized person

Title | Date

PENALTY FOR FAILURE TO REPORT — DUE DATE: FEBRUARY 15, 1978 — Form Approved: O.M.B. No. 41-S77009

FORM NC-K1 (6-29-77)

NOTICE – Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 ECONOMIC CENSUSES

ENTERPRISE REPORT

In correspondence pertaining to this report please refer to this Census File Number:

NC-K1 (9991)

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Please complete this form and RETURN TO: BUREAU OF THE CENSUS, 1201 East Tenth Street, Jeffersonville, Indiana 47132

If filing by due date causes a burden, a request for an extention of time should be sent to the above address.

CENSUS USE ONLY

Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

Important *– Please read instructions before completing report*

Report the following items on a consolidated basis for the domestic activities of your enterprise. An enterprise is a business organization (i.e., company, service organization, membership organization, association, etc.) consisting of one or more establishments under common ownership or control. Furthermore, if an enterprise owns or controls other entities, all establishments of its subsidiaries are to be included as part of the owning or controlling enterprise. For purposes of this report, "domestic" activities include all 50 States and the District of Columbia. Do not include foreign activities, if any, except for reporting foreign assets in item 9. Consolidate all domestic activities, whether or not covered in the 1977 Economic Censuses by individual report forms.

If book records are not available, enter your best estimate. **Before completing these items, please read the detailed instructions.**

Item 1 – CERTIFICATION

Name of person to contact regarding this report	Telephone: Area code	Number	Extension

Address – *Number and street*

City	State	ZIP code

This report is substantially accurate and has been prepared in accordance with instructions.

Period covered → From: Mo. 010 Day 011 Year 012 — To: Mo. 013 Day 014 Year 015

Signature of authorized person

Title — Date

Important – Please read

Dollar figures should be reported as illustrated. Please be careful to enter your figures in the correct columns. See example below:

EXAMPLE: If figure is $1,125,628.28

	Mil.	Thou.	Dol.
	000	000	000
• PREFERRED method	1	126	
Acceptable method	1	125	628

Item 2 – TOTAL EMPLOYMENT

Number of paid employees for the pay period including March 12, 1977 — Number of employees 020

Item 3 – TOTAL PAYROLL

		Mil.	Thou.	Dol.
		000	000	000
a. Payroll for the **FIRST QUARTER** of 1977, before deductions	030			
b. **TOTAL ANNUAL** payroll in 1977, before deductions	031			

Item 4 – EMPLOYER COSTS FOR FRINGE BENEFITS

a. Required by law	040			
b. Other fringe benefits	041			
c. Total fringe benefits *(Sum of lines a and b)*	042			

Item 5 – SALES AND RECEIPTS

a. Sales and other operating receipts (exclude sales or other taxes collected)	050			
b. Were sales (or other) taxes collected from customers and forwarded to taxing authorities?	051	1 ☐ YES 2 ☐ NO		
		Mil.	Thou.	Dol.
If "Yes," report amount of taxes. *Do not include in 5a.*	052			
c. **TOTAL sales and other operating receipts (including sales or other taxes collected)** *(Sum of lines a and b)*	053			

PLEASE CONTINUE ON REVERSE SIDE

Item 6 – CAPITAL EXPENDITURES (Exclude land and mineral rights)		Millions	Thousands	Dollars
		000	000	000
a. New structures and additions to plant	060			
b. New automobiles, trucks, trailers, etc., for highway use	061			
c. New computers and peripheral data processing equipment	062			
d. All other expenditures for new machinery and equipment	063			
e. Used plant and used equipment acquired from others	064			
f. Capitalized development and exploration of mineral properties	065			
g. **Total capital expenditures** *(Sum of lines a through f)*	066			
Item 7 – GROSS VALUE OF DEPRECIABLE ASSETS	070			
a. Gross depreciable assets, end of **1976**				
(1) For machinery and equipment	071			
(2) For buildings and structures	072			
(3) **Total** *(Sum of lines (1) and (2))*	073			
b. Total capital expenditures during 1977 (should equal line 6g)	074			
c. Other acquisitions by your company during 1977	075			
d. Deductions from depreciable assets during 1977	076			
e. Gross depreciable assets, end of **1977**				
(1) For machinery and equipment	077			
(2) For buildings and structures	078			
(3) **Total** *(Sum of lines (1) and (2))*				
Item 8 – CHANGES IN DEPRECIATION RESERVES	080			
a. Accumulated depreciation as of end of **1976**				
b. Depreciation charged against assets during 1977	081			
c. Additions charged to other accounts during 1977	082			
d. Deductions from reserves for retirements, renewals, and replacements during 1977	083			
e. Accumulated depreciation as of end of **1977** *(Sum of lines a through c minus line d)*	084			
Item 9 – TOTAL ASSETS, AS OF END OF 1977	090			
a. Net value of depreciable assets (should equal line 7e(3) minus line 8e)	091			
b. All other domestic assets, including inventories	092			
c. Net foreign assets	093			
d. **Total assets, as of end of 1977** *(Sum of lines a through c)*				

Item 10 – INVENTORIES AND METHOD OF VALUATION		Millions	Thousands	Dollars
		000	000	000
a. All inventories, as of end of **1976**	100			
b. All inventories, as of end of **1977**	101			

c. **METHOD OF INVENTORY VALUATION**

EXAMPLE FOR REPORTING PERCENTS	If figure is **38.76%** of total receipts:	Percent
	Report whole percents →	39%
	Not acceptable →	38.76%

Method of inventory		Whole percents: End of 1977	Whole percents: End of 1976
(1) **Cost**	(a) First-in, First-out (FIFO)	102	114
	(b) Last-in, First-out (LIFO)	103	115
	(c) Average cost	104	116
	(d) Specific or actual cost	105	117
	(e) Standard cost	106	118
	(f) Other – *Specify*	107	119
(2) **Market**	(a) Market used because lower than cost	108	120
	(b) Market always used	109	121
(3) **Retail method**	(a) Approximating lower of cost or market	110	122
	(b) Approximating cost	111	123
	(c) LIFO retail	112	124
(4) Other – *Specify*		113	125
(5) **TOTAL**		100%	100%

Item 11 – SELECTED OPERATING EXPENSES		Millions	Thousands	Dollars
		000	000	000
a. Did this enterprise make royalty payments for the use of intangible property rights during 1977?	126 1 ☐ YES – *Report value of payments* → 2 ☐ NO – *GO to b*	127		
b. Did this enterprise purchase advertising services during 1977?	128 1 ☐ YES – *Report cost of purchased services* → 2 ☐ NO – *GO to c*	129		
c. Did this enterprise make rental payments during during 1977?	130 1 ☐ YES – *GO to d* 2 ☐ NO – *SKIP to item 12*			
d. Rental payments, excluding land		131		
(1) For use of buildings and structures		132		
(2) For machinery and equipment		133		
(3) Total rental payments *(Sum of lines (1) and (2))*				

Item 12 – CONSISTENCY CHECK

Is the gross value of depreciable assets at the end of the year minus total capital expenditures during the year within 5% of the gross value of depreciable assets at the beginning of the year? 140 1 ☐ YES 2 ☐ NO – *Explain in Remarks*

REMARKS – *Please use this space for any explanation that may be essential in understanding your reported data.*

FORM NC-K1 (5-25-77)

PENALTY FOR FAILURE TO REPORT **DUE DATE: FEBRUARY 15, 1978** Form Approved: O.M.B. No. 41-S77035

FORM MC-36B (Rev.) U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

SWITCHGEAR AND SWITCHBOARD APPARATUS AND INDUSTRIAL CONTROLS

Please complete this form and RETURN TO: BUREAU OF THE CENSUS, 1201 East Tenth Street, Jeffersonville, Indiana 47132

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number

Employer Identification Number

Please read ...

A separate census report must be filed for each manufacturing establishment which your company operated in 1977. A manufacturing establishment is defined as a single physical location where products are manufactured, processed, or assembled.

Please read the instructions for each item before completing it. If book figures are not available, carefully prepared estimates are acceptable.

If filing by due date causes an undue burden, a time extension request should be sent to the above address. Please enter your 11-digit Census File Number on each page of this report and on any correspondence with us regarding this report.

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

110 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | 111 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

ITEM 1A Physical location of establishment

In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location **which may differ from the mailing address.** *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.*
Mark (X) for a, b, c, and d if same as mailing label; if different enter corrections.
Same as mailing label ☐ OR ▶

b. Name of city, town, village, borough, etc. of physical location
Same as mailing label ☐ OR ▶

c. State
Same as mailing label ☐ OR ▶

d. ZIP code
Same as mailing label ☐ OR ▶

e. Type of municipality indicated in 1Ab: 1 ☐ City 2 ☐ Town 3 ☐ Village 4 ☐ Borough 5 ☐ Township 6 ☐ Unincorporated 7 ☐ Other – *Specify* _____ 8 ☐ Don't know

f. Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1Ab? 1 ☐ Yes 2 ☐ No 3 ☐ No legal boundaries 4 ☐ Don't know

NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which it takes its name.

g. Name of county (Louisiana parish) of physical location

ITEM 1B Employer identification number(s)

Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941? 108

☐ YES ☐ NO – *Enter current EI number* → ___ – _____ *(9-digits)*

ITEM 1C Organizational status

Mark (X) the **ONE** box which best describes this establishment during 1977 109
1 ☐ Individual proprietorship 2 ☐ Partnership 0 ☐ Corporation (Do not mark if any form of cooperative association) 8 ☐ Cooperative association, corporate or non-corporate 9 ☐ Other – *Specify* _____

Important – Please read

Dollars, hours worked, and kilowatt-hour figures should be reported in thousands. If you wish, you may report to the nearest unit. Please be careful to enter your figures in the **correct columns.**

EXAMPLE: If figure is $1,125,628.28 → • **PREFERRED method** 1 | 126 | — ; **Acceptable method** 1 | 125 | 628

REFER TO SPECIAL INSTRUCTIONS ON REVERSE SIDE FOR ITEMS 2–8

• Complete each item and enter "0" when appropriate.

ITEM 2 Number of employees

Number of production workers during pay period including the 12th of month	Key	Number
a. March	301	
b. May	302	
c. August	303	
d. November	304	
e. Sum of lines a–d	305	
f. Average number (divide line e by 4, omit fractions)	306	
g. All other employees (pay period including March 12th)	307	
h. TOTAL EMPLOYMENT (Sum of lines f and g, item 2) ▶	308	

ITEM 3A Annual payrolls

	Key	Mil.	Thou.	Dol.
a. Production workers' wages (for employees reported in item 2f)	309	$		
b. All other salaries and wages (for employees reported in item 2g)	310			
c. TOTAL PAYROLL (item 3A) ▶	311	$		

ITEM 3B – Not applicable to this form

ITEM 3C First quarter payroll

	Key	Mil.	Thou.	Dol.
TOTAL PAYROLL FOR THE FIRST QUARTER (JANUARY–MARCH) ▶	315	$		

ITEM 4 Plant hours worked by production workers by quarter

	Key	Mil.	Thou.	Hrs.
a. January through March	316			
b. April through June	317			
c. July through September	318			
d. October through December	319			
e. TOTAL HOURS WORKED (Item 4) ▶	320			

ITEM 5 Cost of materials, resales, fuels, electricity, and contract work

	Key	Mil.	Thou.	Dol.
a. Cost of materials, parts, supplies, containers, etc., which were put into production, used as operating supplies, or used in repair and maintenance	321	$		
b. Cost of products bought and sold without further manufacture or assembly (Resales)	322			
c. Cost of fuels consumed during the year for heat and power	323			
d. Cost of purchased electricity	324			
e. Cost of contract work done for you by others on your materials	325			
f. TOTAL COST (item 5) ▶	326	$		

ITEM 6 – Not applicable to this form

ITEM 7 Inventories of this establishment

	END OF 1976 Key	Mil.	Thou.	Dol.	END OF 1977 Key	Mil.	Thou.	Dol.
a. Finished products	331	$			335	$		
b. Work-in-process	332				336			
c. Materials, supplies, fuels, etc.	333				337			
d. TOTAL INVENTORIES (item 7) ▶	334	$			338	$		

ITEM 8 Capital expenditures during year

	Key	Mil.	Thou.	Dol.
a. New structures and new additions to this plant (Exclude land)	342	$		
b. New machinery and equipment including replacements and capitalized repairs	343			
c. Used buildings and equipment	347			
d. TOTAL CAPITAL EXPENDITURES (item 8) ▶	350	$		

ITEMS 9–15 – Not applicable to this form

CENSUS USE

CONTINUE ON PAGE 2 →

Form MC-36B (Rev.) Page 2

ITEM 16A — Operational status

a. Mark (X) **ONE** box — *Be sure to indicate the date of any change*

Enter figures only — Mo. | Day | Year

112

1 ☐ No change in operator or operations

2 ☐ Reorganized — *Complete report for full year and describe type of change in remarks*

3 ☐ Started new business (newly constructed or completely equipped when started)

4 ☐ Establishment closed (no new owner or operator), dismantled, abandoned, or destroyed

5 ☐ Establishment idle or inactive but still owned

6 ☐ Establishment was acquired or leased from another company

Mark (X) **ONE** box and give name and address if —

☐ Building only acquired

☐ Complete plant acquired (building, machinery, and equipment)

Name of former operator — *Enter current EI number (9 digits)*

Number and street, city, State, ZIP code

7 ☐ Establishment was sold or leased to another company — Mo. | Day | Year

Mark (X) **ONE** box and give name and address if —

☐ Building only sold

☐ Complete plant sold (building, machinery, and equipment)

Name of new operator — *Enter current EI number (9 digits)*

Number and street, city, State, ZIP code

b. Is the FIRST DIGIT of your Census File Number (imprinted in the address box) a Zero "0"? ☐ YES — *Complete item 16B, a through d* ☐ NO — *SKIP to Item 16C*

ITEM 16B — Ownership and control

113

a. Is this company owned or controlled by another company? 1 ☐ YES → 2 ☐ NO

Enter the company name and address *(Number and street, city, State, ZIP code)* and EI number. If more space is needed to list companies, use remarks section.

603 Name and address of owning or controlling company — *Enter current EI number (9 digits)*

114

b. Does this company own or control any other company or companies? 1 ☐ YES → 2 ☐ NO

604 Name and address of owned or controlled company — *Enter current EI number (9 digits)*

c. Did this company have any manufacturing plants under construction but not in operation at the end of the year? 1 ☐ YES 2 ☐ NO

d. Did this company operate at more than one location during the survey year? If more space is needed, attach separate sheet. 1 ☐ YES — *List additional locations below* 2 ☐ NO — *SKIP to Item 16C*

Physical address of business location *(Number and street, city, State, ZIP code)* (1)	Employer Identification Number (2)	Kind of business at this location (3)	Sales and receipts (4) Mil.	Thou.	Dol.	Annual payroll (5) Mil.	Thou.	Dol.	Number of employees (6)	Are these figures included on the front of this report? (7)
605	606 *(9 digits)*	607	608			609			610	☐ YES ☐ NO
605	606 *(9 digits)*	607	608			609			610	☐ YES ☐ NO

ITEM 16C — CHECKS to assure a complete and accurate report

The Bureau of the Census reviews this report for omissions, inconsistencies, and unusual ratios. To save you future correspondence about these problems, please make the following checks before returning this report.

- Review the report carefully to see that no items are omitted for the year being covered.
- Calculate and enter figures for the four "reasonableness" checks below, and review the results.
- Correct your report for any errors you find and explain unusual figures in remarks.

For most manufacturing establishments, the figures computed usually fall within the ranges indicated.

"Reasonableness" checks	Calculation required for each check	Figures for survey year	Usual range
a. Average hourly wages per production worker	Item 3Aa (Production workers' wages) ÷ item 4e (Total hours worked)	$/hr.	$2 – $10
b. Hours worked per year per production worker	Item 4e (Total hours worked) ÷ item 2f (Average number of production workers)	hrs./yr.	1000 – 3000
c. Salaries and wages per dollar of shipments	Item 3Ac (Total payroll) ÷ item 18 (Total value of shipments)	¢	05¢ – 95¢
d. Materials cost per dollar of shipments	Item 5f (Total materials cost) ÷ item 18 (Total value of shipments)	¢	05¢ – 95¢

e. Is the total for Value of Shipments (item 18) greater than the sum for payroll (item 3Ac) plus total Cost of Materials, etc. (item 5f)? ☐ YES ☐ NO — *Explain in remarks*

Remarks — *Please use this space for any explanations that may be essential in understanding your reported data.*

SPECIAL INSTRUCTIONS FOR ITEMS 2–8

▶ **Item 2 — Number of employees** — Report all employees at this establishment who received pay for part of the pay period including the 12th of the specified months. Include officers at this establishment, if a corporation; if an unincorporated concern exclude proprietor or partners.

▶ **Items 2a–2d — Number of production workers** — Report workers (up through the working foreman level) engaged in fabricating, processing, assembling, inspecting,and other manufacturing.

▶ **Item 2g — All other employees** — Report nonproduction personnel, including those engaged in supervision (above the working foreman level), installation and servicing of own product, sales, delivery, professional, technical, administrative, etc.

▶ **Item 3a — Annual payrolls** — Report gross earnings prior to deductions paid in the calendar year to those employees reported in item 2. Include commissions, dismissal pay, bonuses, and vacation pay.

▶ **Item 4 — Plant hours worked by production workers by quarter** — Include all production hours worked, including overtime hours,but excluding paid vacations, etc. These should be reported as actual hours worked, not straight-time equivalent hours.

▶ **Item 5 — Cost of materials, etc.** — Report total delivered cost after discounts and including freight of the materials actually consumed or put in production during the year. Include purchases, interplant transfers, and withdrawal from inventories.

If there are no records of consumption, purchases may be reported instead for minor items. This can also be done for major items if purchases do not differ significantly from the amounts actually used. Where consumption of major items differs significantly from purchases, consumption may be estimated by adding beginning inventories to the amount purchased and subtracting ending inventories.

▶ **Item 5a — Cost of materials, parts, supplies, containers, etc., consumed** — The delivered cost figures should cover all raw materials, containers, scrap, supplies, etc., which were: (1) put into production, (2) used as operating supplies, (3) used in repair and maintenance. Item 5a should be consistent with the data in item 17B.

▶ **Item 5b — Cost of products bought and sold** — Report the cost of all products bought and sold in the same condition as when purchased, and not made part of another product manufactured by this establishment. (Total sales value of all products sold is to be reported in item 18 on the line for resales.)

▶ **Item 5c — Cost of fuels consumed** — Report the total cost of all fuels consumed for heat, power, transportation, or the generation of electricity. Do not include the estimated cost of fuels, such as sawdust or blast furnace gas, produced as a by-product of your manufacturing activities. Include anthracite and bituminous coal, coke, natural and manufactured gas, fuel oil, liquefied petroleum gas, gasoline, and all other fuels including purchased steam.

▶ **Item 5d — Cost of purchased electricity** — Report the total cost of electric energy purchased from other companies or received from other establishments of your company. Exclude the value of electricity generated and used at this establishment.

▶ **Item 5e — Cost of contract work done for you by others on your materials** — If any contract work was done by others on materials furnished by your establishment, report the total payments made during the year for such work, including freight out and in. Exclude the cost of materials worked on, which should be included in item 5a.

▶ **Item 8 — Capital expenditures during year (Exclude expenditures for land)** — Include all costs actually incurred during 1977 chargeable to the fixed assets accounts and of the type for which depreciation or amortization accounts are ordinarily maintained. This should include construction and repair work performed by your own forces.

CONTINUE ON PAGE 3 →

FORM MC-36B (Rev.) U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

SWITCHGEAR AND SWITCHBOARD APPARATUS AND INDUSTRIAL CONTROLS – Continued

PLEASE ENTER THIS ESTABLISHMENT'S 11-DIGIT CENSUS FILE NUMBER

Name of establishment (Same as address box)

Item 17A WATER USE DURING 1977

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1. What was the total quantity of water intake for this establishment for use in the production process and auxiliary operations (such as cooling and condensing, sanitary services, and boiler feed) during the calendar year 1977?

Mark (X) one box only

1 ☐ Under 1 million gallons
2 ☐ 1–9 million gallons
3 ☐ 10–19 million gallons
4 ☐ 20–49 million gallons
5 ☐ 50–99 million gallons
6 ☐ 100 million gallons or over

349

2. Did you recirculate any water during the calendar year 1977? . . . . . 1 ☐ YES 2 ☐ NO

Item 17B CONSUMPTION OF SELECTED MATERIALS DURING 1977

Instructions - Please read

1. **GENERAL** – The materials, parts, and supplies listed below are those commonly consumed in the manufacture, processing, or assembly of the products listed in item 18. Please review the entire list and **report separately** for each item consumed. The materials, parts, and supplies consumed at this establishment which are not prelisted should be described and reported in the "All other materials, etc." line at the end of this section. If your consumption of a listed material is valued at less than $10,000, enter an (X) in column (E) and include the value with "All other materials, etc." Census material code 970099 8.

   If your book records do not contain information as requested, **reasonable estimates are acceptable.**

2. **VALUATION OF MATERIALS CONSUMED** – The value of the materials, etc., consumed should be based on the delivered cost, i.e., the amount paid or payable after discounts and including freight and other direct charges incurred in acquiring the materials. This includes purchases, transfers from other establishments of your company, and withdrawals from inventories. Materials transferred to you from other plants within your company should be assigned their full economic value, as assigned by the shipping plant, plus cost of freight and handling charges.

3. **CONTRACT WORK** – Materials purchased for use by others making products for you on a contract basis should be included. Amounts paid to other companies for such contract work should be reported in item 5e, and should include freight in and out. Materials owned by others but used at this establishment in making products for others under contract or on commission should be excluded.

4. **MATERIALS PRODUCED AND CONSUMED** – Materials, parts, and supplies which are produced and consumed in the same establishment in the manufacture of products should be reported in column (C-1). Please report only the quantities of these materials produced and consumed. If the specific input materials used to produce these items are listed, the quantity and value should be reported in columns (C-2) and (D). If not, the cost should be included in the "All other materials, etc." line, Census material code 970099 8.

Line number	Materials, parts, and supplies (A)			Census material code 571 (B-1)	Unit of measure for quantities (B-2)	Quantities produced and consumed 572 (C-1)	Materials purchased and consumed: Quantity 573 (C-2)	Materials purchased and consumed: Cost, including delivery cost (freight-in) (D) 574 Millions 000	Thousands 000	Dollars 000	If you consumed less than $10,000 of the item enter (X) 575 (E)
1	MILL SHAPES AND FORMS (EXCEPT CASTINGS)	Carbon steel	Bars and bar shapes	331011 7	Short tons			$			
2			Sheet and strip	331012 5							
3			Plates	331013 3							
4			Structural shapes	331015 8							
5			All other	331019 0							
6		Alloy steel (except stainless)		331020 8							
7		Stainless steel	Sheet and strip	331033 1							
8			All other	331050 5							
9		Insulated wire and cable, except magnet wire	Copper – Report quantity of copper content only in column (C-2)	335792 8	Thousand pounds						
10			Aluminum – Report quantity of aluminum content only in column (C-2)	335793 6							
11		Magnet wire		335770 4							
12		Copper and copper-base alloy	Bare wire (for electrical conduction only)	335728 2							
13			Rod, bar, and mechanical wire, including extruded and/or drawn shapes	335102 0							
14			Plate, sheet, and strip, including military cups and discs	335143 4							
15			Pipe and tube	335152 5							
16		Aluminum and aluminum-base alloy	Sheet, plate, and foil	335301 8							
17			Extruded shapes, including extruded rod, bar, pipe, tube, etc.	335405 7							
18			All other (wire, rolled rod and bar, powder, welded tubing, etc.)	335008 9							
19	CASTINGS (ROUGH AND SEMIFINISHED)	Steel		332045 4	Short tons						
20		Aluminum and aluminum-base alloy		336100 3	1,000 lbs.						
21		Copper and copper-base alloy		336200 1	1,000 lbs.						
22	INDUSTRIAL ELECTRICAL CONTROL EQUIPMENT	(Received for incorporation only into other industrial electrical control equipment shipped, as such, by this plant) Purchased from other companies		362200 8							
23		Received from other plants of your company		362209 9							
24	Porcelain, steatite, and other ceramic electrical products			326400 9							
25	Plastic products consumed in the form of sheets, rods, tubes and other shapes			307903 5							
26	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but exclude sheets, rods, tubes and shapes			282104 9	Thousand pounds						
27	Nonferrous metal smelter and refinery shapes, including precious metal			333001 6	Thousand pounds						
28	Bolts, nuts, screws, rivets, and screw machine products			345001 2							
29	Switches, except snap, toggle and push, and circuit breakers			361301 5							
30	Electric motors, generators and parts			362101 8							
31	Sheet metal products, except stampings			344401 5							
32	Resistors, capacitors, transformers, transducers, and other electronic-type components, except electron tubes and semiconductors			367001 5							
33	Cost of all other materials and components, parts, containers, and supplies consumed including those values checked in column (E) . . . . . *Describe the three principal materials, etc., included in this value.*			970099 8							
34	TOTAL *Sum of lines 1–33 should be same as item 5a*							$			

CONTINUE ON PAGE 4 →

Form MC-36B (Rev.) Page 4

Item 18 PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1977

Instructions - Please read

1. **GENERAL** — The products and services listed below are those that are generally made in your industry. Please review the entire list before completing the inquiry. If you produce products that are not prelisted, they should be described and reported in the "All other products" section at the end of item 18. **Please do not combine product lines.**

   Products for which quantity data are requested should be reported in the unit of measure specified.

   If your book records do not contain information as requested, **reasonable estimates are acceptable.**

2. **VALUATION OF PRODUCTS** — The value of the products shipped and services performed should be based on the **net selling value, f.o.b. plant,** after discounts and allowances, and exclusive of freight charges and excise taxes.

   When transferring products to other establishments within your company, the shipping plant should assign the full economic value to the transferred products, i.e., include all direct costs of production and a reasonable proportion of all other costs and profits.

3. **PRODUCTS BOUGHT AND SOLD WITHOUT FURTHER MANUFACTURE** — Products which you purchase and sell as originally purchased (not used in the further manufacturing, processing or assembling of products made in this establishment) should be reported as "Resales," Census product code 99989 00 6.

4. **CONTRACT WORK**

   a. **Products made by others for you from your materials:** Report such products on the specific lines of this section as if they were made in this establishment.

   b. **Products that you made from materials owned by others:** Report the amount that you received for "commission or contract receipts" on line 29, Census product code 93000 00 8. Do not report on the specific product lines for these products.

5. **DETAILED DATA REPORTED ELSEWHERE** — This report requires totals for groups of products covered in more detailed Current Industrial Reports (CIR). If you report on the CIR forms the value of shipments for items designated by an asterisk should equal the sum of the detail reported on the CIR's.

Line number	5 Products and services * *Item corresponds to products reported on Current Industrial Reports* (A)	Census product code 581 (B-1)	Unit of measure for quantities (B-2)	Corresponds to the sum of products for 1977 reported on – Census form (B-3)	Code (B-4)	Products shipped and other receipts: Quantity 583 (D)	Value, f.o.b. plant (E): 584 Millions 000	Thousands 000	Dollars 000
1	Switchgear, except ducts and relays (36131)*	36131 00 1		MA-36A	3613109–3613193		$		
2	Power circuit breakers, all voltages (36132)*	36132 00 9			3613215–3613230				
3	Low voltage panelboards and distribution boards and other switching and interrupting devices, 750 volts and under (36133)*	36133 00 7			3613311–3613398				
4	Fuses and fuse equipment under 2300 volts, except power distribution cut-outs (36134)*	36134 00 5			3613431–3613493				
5	Molded case circuit breakers, 750 volts and under (36135)*	36135 00 2			3613511–3613595				
6	Duct, including plug-in units and accessories, 750 volts and under (36136)*	36136 00 0			3613611–3613631				
7	Relays, control circuit (36137)*	36137 00 8			3613701–3613704				
8	General industry power circuit devices, controls, and parts (36220)*	36220 00 2			3622012–3622099				
9	Integrating instruments, electrical (38251)*	38251 00 5		MA38B	3825110–3825161				
10	Instruments to measure electricity (38253)*	38253 00 1		MA38B	3825308–3825376				
11	Power mercury arc rectifiers	36292 51 4	No. of units						
12	Current-carrying wiring devices, including lightning rods (36430)*	36430 00 7		MA36K	3643001–3643099				
13	Electrical metallic conduit and conduit fittings (36442)*	36442 00 2		MA36K	3644221–3644273				
14	Resistors for electronic applications (36700)*	36700 00 3	Thousands of units	MA36N	3676011–3676064				
15	Controls for monitoring residential and commercial environments and appliance regulating controls (38220)*	38220 00 0		MA38B	3822020–3822080				
16	Fractional horsepower motors (exclude hermetics) (36211)*	36211 00 1		MA36H	3621101–3621185				
17	Fractional motor-generator sets and other rotating equipment, including hermetics (36217)*	36217 00 8		MA36H	3621721–3621798				
18	Land transportation motors, generators, control equipment and parts (36213)*	36213 00 7		MA36H	3621311–3621398				
19	Parts and supplies for motors, generators, and motor generator sets, except for land transportation equipment. (Exclude motors for built in jobs)	36219 11 1							
20	Parts and attachments for adding, calculating, accounting machines and cash registers produced by complete machine manufacturers *	35745 10 8		MA35R	3574510				
21	Copper and copper-base alloy wire (bare and tinned) for purposes other than electrical transmission (alloyed)	33511 31 2	Short tons						
22	Galvanizing and other hot dip coatings	34790 31 1							
23	ALL OTHER PRODUCTS MADE IN THIS ESTABLISHMENT — *Describe and report separately for each product whose value was $50,000 or more and **not listed above**. Specify unit of measure for quantity.*								
24									
25									
26									
27									
28	*Report a single total value for your remaining products **not listed above**.*	77777 00 1							
29	CONTRACT WORK — Receipts for work done for others on their own materials ..... *Describe products worked on and kind of work*	93000 00 8							
30	MISCELLANEOUS RECEIPTS — Sales of scrap and refuse	99980 13 8							
31	Receipts for repair work	99980 61 7							
32	Other miscellaneous receipts	99980 98 9							
33	RESALES — Sales of products **bought and sold without further manufacture, processing, or assembly** in this establishment. *The cost of such items should be reported in item 5b.*	99989 00 6							
34	**TOTAL** *Sum of lines 1–33 column (E)*	77000 00 8					$		

CONTINUE ON PAGE 5 →

FORM MC-36B (Rev.) U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

SWITCHGEAR AND SWITCHBOARD APPARATUS AND INDUSTRIAL CONTROLS – Continued

PLEASE ENTER THIS ESTABLISHMENT'S 11-DIGIT CENSUS FILE NUMBER

Name of establishment (same as address box)

Item 19 – Not applicable to this form

Item 20 SELECTED METALWORKING AND RELATED OPERATIONS PERFORMED IN THIS ESTABLISHMENT DURING 1977

Mark (X) appropriate box

5	Census code	YES	NO
	591 208	592 1 ☐	592 2 ☐

Were any of the operations listed below performed in this establishment in 1977?

If "Yes," indicate in column (C) by marking appropriately, which of the specified operations were performed in this establishment during 1977. Where "Yes" is marked, show in column (D) the approximate number of production workers on all shifts usually engaged in the specified operation.

Line number	Operation (A)	5 Census code 591 (B)	Was this operation performed in this establishment during 1977? 592 (C) Yes	(C) No	Number of production workers (on all shifts) usually employed when operated (estimate if necessary) 593 (D)
1	Foundry (iron or steel)	018	1 ☐	☐	
2	Foundry (nonferrous, except die casting)	026	1 ☐	☐	
3	Electroplating and other plating	059	1 ☐	☐	
4	Heat treating of metals for production purposes	075	1 ☐	☐	
5	Automatic screw machine department	083	1 ☐	☐	
6	Machine shop	091	1 ☐	☐	
7	Tool and die shop (if separate from machine shop) for jigs, fixtures, dies, and other special tooling	109	1 ☐	☐	
8	Pattern shop (foundry patterns only – metal, wood, etc.)	117	1 ☐	☐	
9	Plate or structural fabrication	125	1 ☐	☐	
10	Stamping, blanking and forming of metals	133	1 ☐	☐	
11	Painting, lacquering and enameling on metals	141	1 ☐	☐	
12	Plastics molding	158	1 ☐	☐	

Item 21 – Not applicable to this form

Remarks – *Please use this space for any explanation that may be essential in understanding your reported data.*

Item 22 CERTIFICATION

This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report	Telephone: Area code	Number	Extension	Period covered → From: Mo.	Day	Year	To: Mo.	Day	Year

Address – *Number and street*	Signature of authorized person	

City	State	ZIP code	Title	Date

PENALTY FOR FAILURE TO REPORT **DUE DATE: FEBRUARY 15, 1978**

FORM MC-37EX
(RAILROAD SHOPS)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

LOCOMOTIVES AND CARS BUILT AND REBUILT IN SHOPS OF OPERATING RAILROADS

Please complete and return this form as soon as possible after receipt to

BUREAU OF THE CENSUS
Industry Division
Washington, D.C. 20233

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number

Employer Identification Number

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Instructions - Please read

Please return one copy of this report to the Bureau of the Census, Industry Division, Washington, D.C., 20233, WITHIN 30 DAYS. A separate report should be completed for each shop of your company at which any locomotives or railroad cars were built or rebuilt during 1977.

Include as "rebuilt" locomotives and railroad cars those for which the cost of their dismantling, improvement, and modernization is more than 50 percent of the replacement cost of a new unit of the same class and kind at the time of rebuilding. Do not include as "rebuilt" any conversions or reclassifications, nor units which were reconditioned by replacing defective parts. The values reported for "rebuilt" locomotives and cars should represent the additional value written into the property account.

Item A – NAME OF ESTABLISHMENT COVERED BY THIS REPORT	
Item B – LOCATION OF ESTABLISHMENT	Number and street
	City / State / ZIP code
Item C – NATURE OF ACTIVITY	Describe briefly the kind of activity of this establishment
Item D – MAN-HOURS OF PRODUCTION WORKERS	Were more than 50 percent of the total production worker man-hours worked at this shop during 1977 devoted to building or rebuilding locomotives, passenger cars, or freight cars? . . . . . ☐ Yes ☐ No

PLEASE CONTINUE ON PAGE 2

Form MC-37EX

Page 2

Item E PRODUCTS MADE IN RAILROAD SHOP DURING 1977

Instructions - Please read

Columns (D) and (E) — Total built and rebuilt — Locomotives and cars built and rebuilt by railroads in their shops for their own use should be reported when they are transferred from the shop to the operating part of the company. The value of new locomotives and cars built by railroads for their own use should represent the amount at which they were written into the property accounts. The value reported for locomotives and cars "rebuilt" by railroad companies should represent the additional value written into the property account.

Report separately each product listed; do not combine product lines.

Lines 1–4, 21, and 22 — Include under "rebuilt," locomotives and railroad cars for which the cost of their dismantling, improvement, and modernization is more than 50 percent of the replacement cost of a new unit of the same class and kind at the time of rebuilding. Do not include as rebuilt any units which were reconditioned by replacing defective parts. Do not include conversions or reclassifications.

Column (F) — Weight of items reported in column (D) — Report the weight of locomotives and cars as the empty light weight or "tare" weight.

Line number	Product (A)				Census product code 581 (B)	Total built and rebuilt: Quantity (NUMBER OF UNITS) 583 (D)	Total built and rebuilt: Value f.o.b. plant (THOUSANDS OF DOLLARS) 584 (E)	Weight of items reported in column (D) (SHORT TONS) 585 (F)
1	LOCOMOTIVES, BOTH NEW AND REBUILT, AND PARTS FOR LOCOMOTIVES SOLD SEPARATELY (37431)	Locomotives	Diesel-electric (except mining type)	Rail service type	37431 11 1		$	
2				Other types	37431 15 2			
3			Other (except mining type)	Rail service type	37431 21 0			
4				Other types	37431 25 1			
5			Mining type, including both new and rebuilt		37431 60 8			
6		Parts for locomotives	Air brakes		37431 72 3			
7			Other locomotive parts, except wheels and axles		37431 79 8			
8	PASSENGER AND FREIGHT TRAIN CARS, NEW (37432)	Freight train cars, new	Box		37432 11 9			
9			Flat		37432 15 0			
10			Gondola		37432 25 9			
11		Hopper (covered)	Steel		37432 28 3			
12			Aluminum		37432 32 5			
13			Other		37432 34 1			
14		Hopper (uncovered)			37432 31 7			
15		Tank			37432 41 6			
16		Caboose			37432 45 7			
17		Other freight train cars, including refrigerator cars and industrial rail cars	Suitable for common carrier service		37432 51 5			
18			Not suitable for common carrier service		37432 52 3			
19		Passenger train cars, new	Self-propelled vehicles designed to carry passengers or articles		37432 61 4			
20			Non-self-propelled vehicles, including coach, coach combination, etc.		37432 62 2			
21	STREET CARS, PARTS AND ACCESSORIES FOR RAILROAD CARS AND STREET CARS, AND REBUILT PASSENGER AND FREIGHT TRAIN CARS (37433)	Rebuilt passenger and freight train cars	Rebuilt passenger train cars		37433 31 5			
22			Rebuilt freight train cars		37433 51 3			
23		Self-propelled street cars, subway cars, rapid transit, trolley buses, etc.			37433 61 2			
24		Non-self-propelled street cars, subway cars, rapid transit, trolley buses, etc.			37433 62 0			
25		Other work and service railroad vehicles (exclude locomotive cranes)			37433 69 5			
26		Parts and accessories for railroad and street cars	Airbrake equipment		37433 71 1			
27			Other railroad and street car parts and accessories		37433 79 4			
28	TOTAL *Sum of lines 1–27*				77000 00 8	→	$	

Remarks — *Please use this space for any explanation that may be essential in understanding your reported data.*

Item F CERTIFICATION

This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report	Telephone: Area code	Number	Extension	Period covered → From: Mo. Day Year	To: Mo. Day Year
Address — *Number and street*				Signature of authorized person	
City	State	ZIP code		Title	Date

PENALTY FOR FAILURE TO REPORT — DUE DATE: — Form Approved O M B No. 41-R2611

FORM MA-100(SU) — U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS

1977 ANNUAL SURVEY OF MANUFACTURES

NOTICE – Response to this inquiry is **required by law** (title 13, U.S. Code). By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

RETURN TO: Bureau of the Census, 1201 East Tenth Street, Jeffersonville, Indiana 47132

NOTE ➧ • *This is the first sheet of the 1977 Census of Manufactures form* • *PLEASE READ INSTRUCTION MANUAL*

110 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 — In correspondence pertaining to this report refer to this Census File Number (11 digits)

111 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 — Employer Identification Number

201 TAB

202 IND-T

203 AREA

204 INFL

205 CCS

(Please correct any error in name and address including ZIP code)

ITEM 1A Physical Location — *Complete a, b, and c.*

a. Is this establishment located in the State, county, and place shown below? *(If blank or incomplete, please complete (1) through (4).)* 650 — 1 ☐ YES – *SKIP to part b* 2 ☐ NO – *Correct or complete lines (1) through (4)*

(1) Number and street

(2) City, village, or other place | State | ZIP code

(3) County | (4) If you corrected lines 1, 2, 3, give year moved to new location 19__

b. Type of municipality indicated in 1Aa(2): 1 ☐ City 2 ☐ Town 3 ☐ Village 4 ☐ Borough 5 ☐ Township 6 ☐ Unincorporated 7 ☐ Other – *Specify* 8 ☐ Don't know

c. Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1Aa(2)? 1 ☐ Yes 2 ☐ No 3 ☐ No legal boundaries 4 ☐ Don't know

NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which it takes its name.

ITEM 1B Employer Identification Number(s) — Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?

☐ YES ☐ NO – *Enter current EI number* → (9-digits) 108 | | | – | | | | | | | | |

ITEM 1C Organizational status — Mark (X) the **ONE** box which best describes this establishment during 1977 — 109

1 ☐ Individual proprietorship 2 ☐ Partnership 0 ☐ Corporation (Do not mark if any form of cooperative association) 8 ☐ Cooperative association (corporate or non-corporate) 9 ☐ Other – *Specify*

NOTE ➧ Figures for dollars, man-hours, KWH should be rounded to thousands. However, you may enter figures to nearest dollars. Carefully enter your figures in the correct columns, e.g., if payroll is $1,125,628, report either ..... | Mil. | Thou. | Dols. | OR | Mil. | Thou. | Dols.
$ 1 | 126 | | OR | $ 1 | 125 | 628

Complete each item, enter "0" when appropriate.	Key	1977 Number	1976 Number
ITEM 2 – Number of employees			
Number of production workers during pay period including the 12th of month — a. March	301		
b. May	302		
c. August	303		
d. November	304		
e. Sum of lines a–d	305		
f. Average number *(Divide line e by 4)*	306		
g. All other employees (pay period of March 12)	307		
h. TOTAL f and g (Item 2) →	308		

ITEM 3A – Annual payrolls	Key	1977 Mil.	1977 Thou.	1977 Dols.	1976 Mil.	1976 Thou.	1976 Dols.
a. Production workers' wages	309						
b. All other salaries and wages	310						
c. TOTAL (Item 3A) →	311						

ITEM 3B – Employer's cost for fringe benefits (supplemental labor costs) *(Exclude from Items 3A and 3C)*	Key	1977 Mil.	1977 Thou.	1977 Dols.	1976 Mil.	1976 Thou.	1976 Dols.
a. Legally required including Social Security	312						
b. Payments for voluntary programs	313						
c. TOTAL (Item 3B) →	314						
ITEM 3C – First quarter payroll							
Total payroll for the first quarter (Jan.–March)	315				XXX	XXX	XXX

ITEM 4 – Plant hours worked by production workers	Key	1977 Mil.	1977 Thou.	1977 Hours	1976 Mil.	1976 Thou.	1976 Hours
a. January through March	316						
b. April through June	317						
c. July through September	318						
d. October through December	319						
e. TOTAL (Item 4) →	320						

Complete each item, enter "0" when appropriate.	Key	1977 Mil.	1977 Thou.	1977 Dols.	1976 Mil.	1976 Thou.	1976 Dols.
ITEM 5 – Cost of materials and services used							
a. Cost of materials, parts, components, containers, etc., used	321						
b. Cost of products bought and sold as such	322						
c. Cost of fuels consumed for heat or power *(See item 12)*	323						
d. Cost of purchased electricity *(See item 6)*	324						
e. Cost of contract work done for you by others	325						
f. TOTAL (Item 5) →	326						

ITEM 6 – Quantity of electricity	Key	1977 Kilowatt hours Mil.	1977 Thou.	1977 Units	1976 Kilowatt hours Mil.	1976 Thou.	1976 Units
a. Purchased electricity (quantity comparable to cost as reported in item 5d)	327						
b. Generated electricity (gross less generating station use)	328						
c. Electricity sold or transferred to other establishments	329						

ITEM 7 – Inventories of this establishment at end of year *(Report both years)*	Key	1977 Mil.	1977 Thou.	1977 Dols.	Key	1976 Mil.	1976 Thou.	1976 Dols.
a. Finished products	335				331			
b. Work-in-process	336				332			
c. Materials, supplies, fuels, etc.	337				333			
d. TOTAL (Item 7) →	338				334			

ITEM 8 – Depreciable assets, capital expenditures, and retirements

Refer to the instruction manual for detailed instructions.

(a)	Key	1977 Total (b) Mil.	Thou.	Dols.	Key	Buildings and other structures (exclude land) (c) Mil.	Thou.	Dols.	Key	Machinery and equipment (d) Mil.	Thou.	Dols.	1976 Total (e) Mil.	Thou.	Dols.
a. Gross value of depreciable assets (usually original cost) at beginning of year	341				339				340						
b. Capital expenditures for new buildings and machinery	344				342				343						
c. Capital expenditures for used buildings and machinery	347				345				346						
d. Retirements and disposition of depreciable assets (i.e., gross value of assets sold, retired, scrapped, destroyed, etc.)	353				351				352				XXX	XXX	XXX
e. Gross value of depreciable assets at end of year (should equal lines 8a+8b+8c–8d)	356				354				355						
ITEM 9 – Depreciation charges for the year	359				357				358				XXX	XXX	XXX
ITEM 10 – Rental payments	362				360				361						

		Key	1977 Value (a) Mil.	Thou.	Dols.	1976 Value (b) Mil.	Thou.	Dols.
ITEM 11A Total value of products shipped and other receipts	For 1977 report the total value of products shipped and other receipts as entered in **Item 18.** This value should be completely comparable to the total reported for 1976. If the two figures are not comparable, please explain the reasons why in the remarks section. (Reporting by product class is not required for 1977.) →	330						
ITEM 11B Value of products exported (also included in item 11A)	Report the value of products shipped for EXPORT. Include direct exports and products shipped to exporters or others for export. Do not include products shipped for further manufacture, assembly, or fabrication in the United States. 370 — 1 ☐ $0–24,999 2 ☐ $25,000 or more – *Report the value of exports* →	371						
ITEM 11C Unfilled orders *(See instruction manual)*	a. Does this establishment primarily produce for stock and fill orders from inventory? 372 — 1 ☐ Yes 2 ☐ No							
	b. What is the number of months normally required to fill an order? 373 — 1 ☐ Less than one month 2 ☐ 1 or 2 months 3 ☐ 3 months or more							
	NOTE – If there are any qualifications regarding the unfilled orders data, please explain in the remarks section on the reverse side and complete all parts of this item.							
	c. Report the value of unfilled orders on your books as of the end of the year →	374						

CENSUS USE

MA-100 SU 5 77

CONTINUE ON PAGE 2 ➧

Page 2

ITEM 12 — Purchased fuels used for heat, power, and generating electricity in 1977

Kind of fuel (a)	5 Code 561 (b)	Unit of measure for quantities (c)	1977 Quantity 563 (d)	1977 Cost, including delivery cost (freight-in) 564 (e) Mil.	Thou.	Dols.	Unit cost calculation: Calculated unit cost (f)	Usual range of unit costs (Please explain unusual figures in remarks) (g)
1. Coal	121005 3	Short ton					$ per ton	$10–$90 per ton
2. Coke (including breeze)	331210 5	Short ton					per ton	40–150 per ton
3. Distillate fuel oil (#'s 1, 2, 4, and light diesel)	291141 0	Bbl. (42 gal.)					per bbl.	5–25 per bbl.
4. Residual fuel oil (#'s 5, 6 and heavy diesel)	291151 9	Bbl. (42 gal.)					per bbl.	5–25 per bbl.
5. Natural gas	131157 0	1,000 cu. ft.					per MCF	0.25–4.00 per MCF
6. Other fuels — *Specify kind*	960011 5							
7. **TOTAL COST OF FUELS** *(Should equal cost shown in item 5c, page 1)* →								

ITEM 13 — Method of valuation for inventories reported for 1977 in item 7

Using the inventory total reported for this establishment in item 7d for 1977, please indicate the breakdown of that total according to the inventory valuation methods shown.

- **Cost method** — Report amounts on lines 1a–f.
- **Market basis always used** — Report amounts on line 2b.
- **Lower of cost or market** — Report amounts valued at cost on lines 1a–f according to the applicable methods and the amount at market on line 2a.

Method of valuation (a)		Key	Amount at end of 1977 (b) Mil.	Thou.	Dols.
1. Cost	a. First-in, First-out (FIFO)	381			
	b. Last-in, First-out (LIFO)	382			
	c. Average cost	383			
	d. Specific or actual cost	384			
	e. Standard cost	385			
	f. Other — *Specify*	386			
2. Market	a. Market used for valuation because market lower than cost	387			
	b. Market always used for valuation	388			
TOTAL *(Equals the total reported in item 7d for 1977)* →		389			

During the calendar year 1977 did you change the method of valuating the inventories that you reported for this establishment? 397

1 ☐ YES — *Indicate the nature of the changes in remarks.*

2 ☐ NO

ITEM 14 — Cost of purchased services *(See Instruction Manual)*

	Key	1977 Mil.	Thou.	Dols.
1. Repair of buildings and other structures	390			
2. Repair of machinery	391			
3. Cost of purchased communication services (telephone, telegraph, etc.)	392			

ITEM 15 — Breakdown of machinery and equipment expenditures by type reported in item 8b, col. d *(See instruction manual)*

	Key	1977 Mil.	Thou.	Dols.
1. Automobiles, trucks, etc., for highway use	393			
2. Computers and peripheral data processing equipment	394			
3. All other expenditures for new machinery and equipment	395			
TOTAL *(Should be the same as item 8b, column d)* →				

ITEM 16A — Status of this establishment during 1977 *(Be sure to indicate the date of any change.)*

112 *MARK (X) ONE BOX*

	Enter figures only Mo.	Day	Year
1 ☐ No change in operator or operations			
2 ☐ Reorganized — Complete report for full year and describe type of change in remarks.			
3 ☐ Started new business (newly constructed or completely equipped when started)			
6 ☐ Establishment was acquired or leased from another company			
☐ Building only acquired			
☐ Complete plant acquired (building, machinery, and equipment)			
Name of former operator — EI Number *(9 digits)*			
Number and street, city, State, ZIP code			
4 ☐ Establishment closed (no new owner or operator), dismantled, abandoned, or destroyed on			
5 ☐ Establishment idle or inactive but still owned			
7 ☐ Establishment was sold or leased to another company			
☐ Building only sold			
☐ Complete plant sold (building, machinery, and equipment)			
Name of new operator — EI Number *(9 digits)*			
Number and street, city, State, ZIP code			

ITEM 16B — Company organization

113 **a. Is this company owned or controlled by another company?** 1 ☐ YES → 2 ☐ NO

Enter the company name and address *(Number and street, city, State, ZIP code)* and EI number. *If more space is needed to list companies, use remarks section.*

603 Name and address of owning or controlling company — EI Number *(9 digits)*

114 **b. Does this company own or control any other company or companies?** 1 ☐ YES → 2 ☐ NO

604 Name and address of owned or controlled company — EI Number *(9 digits)*

c. Did this company have any manufacturing plants under construction but not in operation at the end of the year? 1 ☐ YES 2 ☐ NO

d. Did you operate at more than one location during the survey year? *If more space is needed, attach separate sheet.* 1 ☐ YES — *List additional locations below* 2 ☐ NO — *SKIP to item 16C below*

Physical address of business location *(Number and street, city, State, ZIP code)* (a)	Employer Identification Number (b)	Kind of business at this location (c)	Sales and receipts (d) Mil.	Thou.	Dols.	Annual payroll (e) Mil.	Thou.	Dols.	Number of employees (f)	Are these figures included on the front of this report? (g)
605	606	607	608			609			610	☐ YES ☐ NO
605	606	607	608			609			610	☐ YES ☐ NO

ITEM 16C — CHECKS to assure a complete and accurate report

The Bureau of the Census reviews your report for omissions, inconsistencies, and unusual ratios. To save you future correspondence about these problems, please make the following checks before returning your report.

(1) Review the report carefully to see that no items are omitted for the year being covered.
(2) Calculate and enter figures for the four "reasonableness" checks below, and review the results.
(3) Correct your report for any errors you find and explain unusual figures in remarks.

For most manufacturing establishments, the figures computed usually fall within the ranges indicated.

"Reasonableness" checks	Calculation required for each check	Figures for survey year	Usual range
a. Average hourly wages per production worker	Item 3Aa (Production workers' wages) ÷ item 4e (Total hours worked)	$ hr.	$2 – $10
b. Hours worked per year per production worker	Item 4e (Total hours worked) ÷ item 2f (Average number of production workers)	hrs. yr.	1000 – 3000
c. Salaries and wages per dollar of shipments	Item 3Ac (Total payroll) ÷ item 11A (Total value of shipments)	¢	05¢ – 95¢
d. Materials cost per dollar of shipments	Item 5f (Total materials cost) ÷ item 11A (Total value of shipments)	¢	05¢ – 95¢

e. Is the total for Value of Shipments (item 11A) greater than the sum for payroll (item 3Ac) plus total Cost of Materials, etc. (item 5f)? ☐ YES ☐ NO — *Explain in remarks*

Remarks — *Please use this space for any explanations that may be essential in understanding your reported data.*

FORM MA-100 (SU) (5-77)

PENALTY FOR FAILURE TO REPORT
DUE DATE: FEBRUARY 15, 1978

Form Approved: O.M.B. No. 41-S77001

FORM CB-50F (5006)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF DISTRIBUTIVE TRADES

ELECTRICAL GOODS

Important *— PLEASE READ ALL ACCOMPANYING INSTRUCTIONS*

NOTICE – Response to this inquiry is **required by law (title 13, U.S. Code).** By the same law, your report to the Census Bureau is **confidential.** It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are **immune from legal process.**

In correspondence pertaining to this report, please refer to this Census File Number

CB-50F (5006)

Employer Identification Number

Please complete this form and RETURN TO

BUREAU OF THE CENSUS
1201 East Tenth Street
Jeffersonville, Indiana 47132

Census use only	Unit No.	Item code	Unit No.	Item code	Unit No.	Item code

KEEP THIS COPY FOR YOUR FILES

. PLEASE COMPLETE AND RETURN THE FORM WHICH SHOWS YOUR NAME AND ADDRESS

Please correct errors in name, address and ZIP code. ENTER street and number if not shown.

Item 1 – PHYSICAL LOCATION OF ESTABLISHMENT – In order to assign this establishment to the correct geographic area, the Bureau of the Census must know the actual location **which may differ from the mailing address.** *Complete items a through g.*

a. Address number and street name of physical location – *If not known, enter building name, shopping center name, or other physical location description. Do not enter P.O. box or rural route.*

Mark (X) for a, b, c, and d if same as mailing label; if different show corrections.

Same as mailing label [ ] OR ▶

b. Name of city, town, village, borough, etc., of physical location

Same as mailing label [ ] OR ▶

c. State — Same as mailing label [ ] OR ▶

d. ZIP code — Same as mailing label [ ] OR ▶

e. Type of municipality indicated in 1b (*Mark (X) one*): 1 [ ] City; 2 [ ] Town; 3 [ ] Village; 4 [ ] Borough; 5 [ ] Township; 6 [ ] Unincorporated; 7 [ ] Other – *Specify* _____; 8 [ ] Don't know

f. Is this establishment located inside the legal boundaries of the city, town, village, etc., indicated in 1b? 1 [ ] Yes; 2 [ ] No; 3 [ ] No legal boundaries; 4 [ ] Don't know

NOTE – The area served by a post office generally does not coincide with the legal boundaries of the municipality from which the post office takes its name.

g. Name of county (Louisiana parish) of physical location

Item 2 – EMPLOYER IDENTIFICATION NUMBER

Is the Employer Identification (EI) Number printed in the upper right of the address box the SAME as that used for this establishment on its latest 1977 Employer's Quarterly Federal Tax Return, Treasury Form 941?

YES

NO – *Enter current EI number* ▶ _____ (9 digits)

Item 3 – OPERATIONAL STATUS

a. Mark (X) the **ONE** box which best describes this establishment at the end of 1977.

001 1 [ ] In operation
2 [ ] Temporarily or seasonally inactive
3 [ ] Ceased operation – *Give date* ▶
4 [ ] Sold or leased to another operator } *Give date AND name, etc.* ▶

Figures only

Month	Day	Year

Name of new owner or operator

Number and street

City | State | ZIP code

b. How many months during 1977 did this firm or organization actively operate this establishment?

Number of months: 002

Item 4 – ORGANIZATIONAL STATUS

a. Mark (X) the **ONE** box which best describes this establishment during 1977.

003
1 [ ] Individual proprietorship
2 [ ] Partnership
8 [ ] Cooperative association
5 [ ] Governmental – *Specify* _____
0 [ ] Corporation (other than specified above)
9 [ ] Other – *Specify* _____

b. Was all or part of the income of this establishment or organization exempt from Federal income taxes under Section 501 or 521 of the Internal Revenue Code?

004 1 YES 2 NO

Important – Please read

Dollar figures should be reported as illustrated. Please be careful to enter the figures in the **correct columns.** See example below:

EXAMPLE: If figure is **$1,125,628.28** ▶

	Millions (000)	Thousands (000)	Dollars (000)
●**PREFERRED method**	1	125	
Acceptable method	1	125	628

Item 5 – DOLLAR VOLUME OF BUSINESS IN 1977

		Mil.	Thou.	Dol.
a. Sales and other operating receipts **EXCLUDING** sales (or other) taxes collected	010			
b. Were sales (or other) taxes collected from customers and forwarded to taxing authorities?	011 1 YES 2 NO			
If "YES," report the amount of such taxes (***DO NOT*** *include taxes in 5a above*)	012			
c. TOTAL SALES and other operating receipts including sales (or other) taxes (Sum of 5a and 5b above) ▶	014			
d. Did this establishment sell merchandise on a commission basis? *If "YES," go to 5e, if "NO," SKIP to 5g*	100 1 YES 2 NO			
e. Gross selling value of business conducted for the account of others (Include in 5a)	101			
f. Dollar volume of commissions or brokerage received on transactions negotiated for others	102			
g. Did your company (including firms under common ownership and control) manufacture or mine, in the United States or its possessions, 50% or more of the products sold by this establishment?	103 1 YES 2 NO			
h. Did this establishment have transfers (billings) to other establishments within your company? *If "YES," go to 5i; if "NO," SKIP to item 5j.*	104 1 YES 2 NO			
i. Dollar volume of transfers (billings) to other establishments within your company (***DO NOT*** *include in 5a*)	105			
j. Did construction receipts represent 50% or more of the total sales (as reported in 5a) of this establishment?	106 1 YES 2 NO			

Item 6 – PAYROLL AND EMPLOYMENT

		Mil.	Thou.	Dol.
a. Payroll				
(1) **Total ANNUAL** payroll in 1977 before deductions	030			
(2) Payroll for the **FIRST QUARTER** of 1977	031			

b. Employment – Number of paid employees for the pay period including the 12th of the month (include both full- and part-time employees)

032 (1) MAR	033 (2) MAY	034 (3) AUG	035 (4) NOV

Item 7 – OPERATING EXPENSES AND INVENTORIES

		Mil.	Thou.	Dol.
a. Total 1977 operating expenses, including payroll ▶	040			

b. Did you have merchandise inventories during 1977? 045 1 YES – *Go to 7c* 2 NO – *SKIP to item 8*

c. Indicate the value of merchandise inventories on hand at the end of the year specified according to the valuation methods shown.

- **Cost method** – Report amounts on lines (1)(a) through (e)
- **Market basis always used** – Report amounts on line (2)(b)
- **Lower of cost or market** – Report amounts valued at cost on lines (1)(a) through (e) according to the applicable methods and the amount at market on line (2)(a)

Method of inventory valuation		Key	Amount at end of 1977 Mil.	Thou.	Dol.	Key	Amount at end of 1976 Mil.	Thou.	Dol.
(1) Cost	(a) First-in, First-out (FIFO)	110				120			
	(b) Last-in, First-out (LIFO)	111				121			
	(c) Average cost	112				122			
	(d) Specific or actual cost	113				123			
	(e) Other – *Specify*	114				124			
(2) Market	(a) Market used for valuation because market lower than cost	115				125			
	(b) Market always used for valuation	116				126			
(3)	**TOTAL INVENTORIES** (Sum of lines (1)(a) through (e) and lines (2)(a) and (b)) ▶	046				047			

Please continue on page 2 ▶

Page 2

Item 8 – TYPE OF OPERATION – Mark (X) the **ONE** item that is best suited to your business – the basis on which the major portion of your operation was conducted in 1977.

a. Merchant (buying and selling on own account) – An establishment primarily engaged in buying and selling merchandise produced by other firms on its own account.

- **Importer** – Source of purchase is primarily foreign.
- **Exporter** – Purchasing goods in the United States for delivery to customers outside the United States.
- **Wholesale merchant, jobber, distributor** – Buying and selling merchandise in the United States for delivery in the United States.

b. Manufacturers' sales branch or sales office – An establishment primarily engaged in selling goods mined or manufactured in the United States and its possessions or Puerto Rico by your company, your parent company, or companies corporately affiliated with your company.

- **Sales branch** – Manufacturers' sales outlet which carries stock.
- **Sales office** – Manufacturers' sales outlet which does not carry stock.

c. Broker, agent, commission merchant – An establishment primarily engaged in selling (or buying) merchandise on an agency basis for others, but not dealing primarily on own account.

- **Auction company** – Selling merchandise for others at wholesale from a permanent location by the auction method.
- **Broker** – Selling (or buying) merchandise on a brokerage basis for others in the United States market, but not receiving goods on consignment.
- **Commission merchant** – Receiving goods on consignment and selling them in the United States market.
- **Import agent** – Representing, on an agency basis, firms outside the United States selling goods in the domestic market.
- **Export agent** – Representing, on an agency basis, domestic firms selling merchandise for delivery outside the United States or its possessions.
- **Manufacturers' agent** – Selling for a limited number of manufacturers on a continuing agency basis.

d. Other type of operation – If none of the above types apply, describe your method of operation.

060

- **a. Merchant (buying and selling on own account)**
  - (1) Importer ☐ 12
  - (2) Exporter ☐ 13
  - (3) Wholesale merchant, jobber, distributor ☐ 11
- **b. Manufacturers' sales branch or sales office**
  - (1) Sales branch (with stock) ☐ 21
  - (2) Sales office (without stock) ☐ 22
- **c. Broker, agent, commission merchant**
  - (1) Auction company ☐ 41
  - (2) Broker (representing buyers or sellers) ☐ 42
  - (3) Commission merchant ☐ 43
  - (4) Import agent ☐ 44
  - (5) Export agent ☐ 45
  - (6) Manufacturers' agent ☐ 46
- **d. Other type of operation** – *Specify* .....

Item 9 – KIND OF BUSINESS – Mark (X) the **ONE** item that best describes the **principal** kind of business of this establishment in 1977. If none applies, mark the last item and enter the description by which your business is known to the trade or public.

070

- **a. Electrical goods**
  - (1) Electrical apparatus and equipment, wiring supplies, and construction materials ☐ 506300
  - (2) Electrical appliances, television and radio sets ☐ 506400
  - (3) Electronic parts and equipment ☐ 506500
- **b. Other kind of business** – *Specify* .....

Item 10 – SALES BY COMMODITY LINES

Report the volume of sales of each of the listed commodity lines which account for at least 1% of this establishment's sales. If any commodities sold are not prelisted but account for 1% or more of total sales, write in the description and volume of sales in the space provided.

Sales may be reported either in dollar figures (see example on page 1), or as a percent (in whole percents) of the total (see example).

The sum of reported commodity lines should equal the total sales as reported in item 5a if dollars are reported; if percents are used, the sum should equal 100.

EXAMPLE FOR REPORTING PERCENTS	If figure is 38.76% of total sales:	Mil.	Thou.	Dol.	Percent
	• Report whole percents →				39%
	Not acceptable →				38.76%

Description	Census use only	Estimated sales during 1977 Mil.	Thou.	Dol.	Percent
Electrical goods	170	171			172
1. Electrical apparatus and equipment					
a. Power and distribution transformers	1311				
b. Switchgear and switchboard apparatus	1312				
c. Motors and generators	1313				
d. Industrial controls (power circuit devices and controls)	1314				
e. Electric lamps and bulbs	1316				
f. Interior wiring (Report conduit on line i)	1317				
g. Lighting fixtures (residential and commercial)	1318				
h. Communication equipment	1319				
i. Other electrical apparatus and equipment (Include conduits, transmission hardware, lightning rods, etc.)	1321				
j. **Total** (Sum of lines 1a through 1i) →	1300				
2. Electrical appliances, household	170	171			172
a. Radio and TV sets	1411				
b. Electrical household ranges and ovens	1412				
c. Refrigerators and freezers, household	1413				
d. Household laundry equipment	1414				
e. Vacuum cleaners and sewing machines, household	1415				
f. Room air conditioners	1416				
g. Other electric household appliances (Include fans, dishwashers, etc.)	1417				
h. **Total** (Sum of lines 2a through 2g) →	1400				
3. Electronic parts and equipment					
a. Electron tubes, receiving and transmitting (Include cathode ray TV picture tubes)	1511				
b. Intercommunication equipment	1512				
c. Public address equipment	1513				
d. Semiconductors, transistors, diodes, rectifiers, and other semiconductor devices (solar cells, zener diodes, etc.)	1514				
e. Other electronic parts and equipment	1515				
	170	171			172
f. **Total** (Sum of lines 3a through 3e) →	1500				

Description	Census use only	Estimated sales during 1977 Mil.	Thou.	Dol.	Percent
Other commodity lines	170	171			172
4. Automotive parts and supplies	0200				
5. Household and lawn furniture	0400				
6. Household china, glassware, and crockery	0500				
7. Linens, domestics, draperies, and shades	0520				
8. Floor coverings	0540				
9. Other home furnishings	0560				
10. Plywood, millwork	0650				
11. Sporting and recreational goods and supplies	0800				
12. Toys, hobby goods and supplies	0900				
13. Photographic equipment and supplies	1000				
14. Hardware (Include power hand tools)	1600				
15. Plumbing and heating equipment and supplies	1700				
16. Warm air heating and air conditioning equipment and supplies	1800				
17. Refrigeration equipment and supplies	1900				
18. Restaurant and hotel equipment and supplies	2020				
19. Farm machinery and equipment	2200				
20. Garden, lawn machinery and equipment	2250				
21. Jewelry, watches, diamonds, and other precious stones (Include silverware)	170 / 2900	171			172
22. Other durable goods (Include phonograph records and pre-recorded tapes)	3030				
23. Art goods (Include gifts, novelties, and souvenirs)	5910				
24. Miscellaneous commodities – *Specify*					
a.	9800				
b.	9800				
c.	9800				
25. Rental receipts – *Specify*	9940				
26. Service receipts and labor charges (Include installed parts)					
a. Labor charges	9711				
b. Parts installed and repair work	9712				
c. Other service receipts	9713				
d. **Total** (Sum of lines 26a through 26c) →	9700				
27. TOTAL SALES IN 1977 (Sum of lines 1 through 26 should equal the entry in item 5a) →	170 / 9990	171			172 / 100%

FORM CO-5(F

Please continue on page 3 →

Page 3

FORM CB-50F (5006)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF DISTRIBUTIVE TRADES
ELECTRICAL GOODS

Please enter the 11-digit CENSUS FILE NUMBER as shown on this report *(See label on page 1)*

Item 11 – SALES BY CUSTOMER CLASSES

Report the approximate percentage of your 1977 sales (item 5a) to each of the customer classes listed.

Line a – Sales to laboratories, manufacturers of all types, service business, and other business concerns that normally buy for business use rather than for resale of the goods in the form purchased.

Line b – Sales to farmers for use in agricultural production.

Line c – Sales to builders and contractors for construction purposes, not for resale.

Line d – Sales to the Federal government (including the military, post exchanges, GSA, GPO, and similar Federal agencies) and to State and local governments. Include here only sales made by this establishment DIRECT to governmental agencies.

Line e – Sales to retailers of all types (retail chain organizations, independent stores, department stores, etc.) who normally buy for resale to home consumers. Sales to repair shops of all types.

Line f – Sales to organizations that normally purchase for resale at wholesale. Sales to suppliers of plumbing, electrical, farm, and office machinery and supplies. Sales through agents and brokers selling on your account.

Line h – Include sales made direct to buyers in foreign countries, or through their agents in this country. Include transfers, if any, to your own foreign branches. United States possessions should not be considered as foreign countries.

		Whole percents
a.	To institutional, industrial, commercial, and professional users *Report sales to repair shops on line e.*	141
b.	To farmers (for farm use)	142
c.	To builders	143
d.	To governmental bodies (Federal, State, and local governments)	144
e.	To retailers and repair shops	145
f.	To wholesale establishments	146
g.	To household consumers and individual users	147
h.	Export sales	148
i.	**TOTAL (Sum of lines a through h should add to 100)** →	100%

Item 12 – EMPLOYMENT BY PRINCIPAL ACTIVITY

Report the approximate number of employees at this establishment according to their principal activity during the pay period including March 12, 1977 (total should equal item 6b(1)).

Line a – Include employees primarily engaged in selling services and merchandise from this establishment.

Line b – Include traveling salesmen, truck salesmen, etc.

Line c – Include employees primarily engaged in office and clerical work for this establishment. (See instruction for line e.)

Line d – Include employees primarily engaged in warehousing activities for this establishment. (See instruction for line e.)

Line e – Central administrative – Employees primarily engaged in various management, accounting, clerical, warehousing, etc., services for other establishments of your company. Include corporate officers unless primarily engaged in sales activities.

		Number of employees
a.	Inside selling	130
b.	Outside selling	131
c.	Office and clerical	132
d.	Warehousing	133
e.	Administrative	134
f.	Manufacturing	135
g.	Other – *Specify*	136
h.	**TOTAL (Sum of lines a through g should equal entry in item 6b(1))** →	137

Item 13 – WAREHOUSE, STOCKROOM, AND OTHER INVENTORY STORAGE SPACE, DECEMBER 31,1977

Report occupiable floor space excluding space occupied by interior walls, permanent aisles, elevator shafts, stairways, offices, receiving and shipping platforms, etc.

149 a. **Did you have warehouse, stockroom, or other inventory storage space on December 31, 1977?** 1 – YES – *Go to 13b* 2 – NO – *SKIP to item 15*

		Square feet		
		Mil.	Thou.	000
b.	Occupiable floor space (under-roof) – occupied and unoccupied – of this establishment	150		

Item 14 – Not applicable to this form

Item 15 – CREDIT SALES, RECEIVABLES, AND BAD DEBT LOSSES

155 a. **Did you have credit sales, receivables, or bad debt losses in 1977?** 1 – YES – *Go to 15b* 2 – NO – *SKIP to item 16*

b.	Approximately what percent of your 1977 sales were made on credit?	156		%
		Mil.	Thou.	Dol.
c.	Accounts and notes receivable, outstanding as of December 31, 1977	157		
d.	Bad debt losses, 1977	158		

Item 16 – TRUCKS, TRUCK TRACTORS, AND TRUCK TRAILERS OPERATED, MID-DECEMBER 1977

160 a. **Did this establishment operate any trucks, truck tractors, or truck trailers mid-December 1977?** 1 – YES – *Go to 16b* 2 – NO – *SKIP to item 17*

b. Number and type of vehicles operated mid-December 1977	TOTAL	Owned	Rented or leased (without drivers)
(1) Trucks (except tractor 'trailer)	161	162	163
(2) Truck tractors	164	165	166
(3) Semi-trailers and full-trailers	167	168	169

Remarks – *Please use this space for any explanation that may be essential in understanding your reported data.*

Item 17 – CERTIFICATION

Census use only	18a. YES NO	18b. YES NO	19a. YES NO	19b. Number 079	Not returned	Blank

Name of person to contact regarding this report

Telephone: Area code | Number | Extension

This report is substantially accurate and has been prepared in accordance with instructions

Period covered → From: Mo. | Day | Year — To: Mo. | Day | Year

Address – *Number and street*

Signature of authorized person

City | State | ZIP code

Title | Date

O.M.B. No. 41-R2349: Approval Expires November 30, 1978

FORM MA-171 (11-28-77) U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

DEPARTMENT OF DEFENSE-OWNED AND OPERATED ESTABLISHMENTS PRIMARILY ENGAGED IN MANUFACTURING AND ASSEMBLY, AND/OR RESEARCH AND DEVELOPMENT – 1977

(Includes shipyards)

(Supplement to the Annual Survey of Manufactures, Census Form MA-100)

INSTRUCTIONS – This report is to be prepared by those Department of Defense establishments whose primary activities are manufacture and assembly and/or research and development. All shipyards are included.

The information requested is based upon reports now regularly prepared by most such establishments.

NOTICE – Response to this inquiry is required by law (title 13, U.S. Code). By the same law, your report to the Census Bureau is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

(Please correct if any error in name and address, including ZIP code)

PLEASE RETURN THIS COPY

ITEM 1 – NAME AND PHYSICAL LOCATION OF ESTABLISHMENT ON DECEMBER 31, 1977

a. Name of establishment

Your answers to parts b, c, d, e, and f of this item should relate to the ACTUAL PHYSICAL LOCATION of this establishment which may be different from the mailing address.

b. Street and number of establishment location*

*If establishment location cannot be described by street and number, give name and number, if any, of road or highway and sufficient information to locate establishment, e.g., Rt. 25, 3 miles south of Charlesville.

c. Type and name of place in which located – *Mark (X) first applicable type and enter name of place.*

Type	Name of place
☐ City	
☐ Village or borough	
☐ Town	
☐ Township	
☐ Other – Specify	

d. Is this establishment physically located within the legal boundaries of the place named in "c"?

☐ Yes ☐ No

e. County in which located

f. State **ZIP code**

g. Telephone number of establishment *(Include area code)*

ITEM 2 – NATURE OF ACTIVITY

Describe briefly the kind of activity of this establishment. If a manufacturing plant, list the three most important products.

ITEM 3 EMPLOYMENT PAYROLLS IN CALENDAR YEAR 1977 (Civilian employees only)

Class of employee	Item code	Number of civilian employees in 1977 — At end of quarter (As reported on Civil Service Form SF-113-A**) March (A)	June (B)	September (C)	December (D)	Sum of columns A, B, C, and D (E)	Average number of employees (Col. E divided by 4) (F)	Total wages and salaries of civilian employees (Thousands of dollars) (G)
a. Wage Board employees	41							$
b. All others	42							$
c. **TOTAL CIVILIAN EMPLOYEES** → *(Sum of lines a and b)*	49							$

** The number of Wage Board employees (line a) should be the same as reported on line 5 of SF-113-A. The total (line c) should be the same as reported on line 1 of SF-113-A.

ITEM 4 MAN-DAYS OF WAGE BOARD EMPLOYEES BY CALENDAR QUARTER 1977

Enter the total number of man-days of Wage Board employees for each calendar quarter of 1977. Do not include days paid for vacations, holidays, or sick leave.

Item code	1977 Quarterly period	Man-days (Thousands) (A)	Estimated number of man-hours*** (Thousands) (B)
51	a. January through March		
52	b. April through June		
53	c. July through September		
54	d. October through December		
59	e. **TOTAL, 1977** → *(Sum of lines a, b, c, and d)*		

*** Obtain figure for column (B) by multiplying column (A) by average number of hours per day per Wage Board employee in this establishment.

Please continue on page 2

ITEM 5 BILLINGS BY THIS ESTABLISHMENT DURING CALENDAR YEAR 1977

Enter below the specified classes of billings of this establishment for calendar year 1977

Billings for products and services (including progress billings)	Item code	Value (Thousands of dollars)
Manufacture and assembly	61	$
Construction and conversion	62	
Overhaul, repair, and renovation	63	
Alteration and modification	64	
Research and development	65	
Other billings	66	
Total billings for products and services	67	
Increase or decrease in unbilled costs of work in progress	68	
TOTAL EARNED REVENUE →	69	

ITEM 6 COSTS DURING CALENDAR YEAR 1977

Types of costs incurred	Item code	Cost (Thousands of dollars)
Materials, supplies, and parts used	71	$
Wages and salaries (same as item 3, code 49, col. G)	72	
Contractual services and other costs	73	
TOTAL COSTS INCURRED →	79	
VALUE ADDED (Census use only)	81	

ITEM 7 CHECKS TO ASSURE A COMPLETE AND ACCURATE REPORT

(Please complete this item after you have answered all items on this report.)

The Census Bureau reviews your report for omissions, inconsistencies, and unusual ratios. To save you future correspondence about these problems, please make the following checks before returning your report:

a. Review this report carefully to see that no items are omitted.
b. Calculate and enter the four "reasonableness" checks (described below), then review the resulting figures.
c. Correct your report for any errors you find; explain unusual figures in "Remarks" section.

"Reasonableness" checks	Calculation required for each check	Resulting figures for 1977
(1) Average hourly wages per Wage Board employee	Item code 41, column G (Wages paid Wage Board employees) ÷ item code 59, column B (Total estimated work-hours)	$
(2) Work days per year per Wage Board employee	Item code 59, column A (Wage Board work-days in thousands) × 1,000 ÷ item code 41, column F (Average number of Wage Board employees)	_____ Work-days
(3) Wages and salaries per dollar of earned revenue	Item code 72, (Wages and salaries of civilian employees) ÷ item code 69 (Total earned revenue)	$

(4) Is the total earned revenue (item code 69, total) greater than total costs incurred (item code 79, total)? . . . . . ☐ Yes ☐ No – *If "No," please explain in "Remarks" section.*

ITEM 8 REMARKS PERTAINING TO THIS REPORT

PERIOD OF REPORT

This report covers the period from _____ to _____

ITEM 9

Name of person to be contracted regarding this report	Address – *Number and street, city, State, ZIP code*	Telephone – *Area code, number, extension*

ITEM 10

CERTIFICATION – This report is substantially accurate and has been prepared in accordance with instructions.

Name of establishment	Address – *Number and street, city, State, ZIP code*	
Signature of authorized official	Title	Date

FORM MA-[illegible] (11-25-77)

DUE DATE: 30 days after receipt

Form Approved: O.M.B. No. 41-S77041

FORM MC-D4
(6-7-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1977 CENSUS OF MANUFACTURES

REPORT FROM PENAL INSTITUTIONS

(Please correct any error in name or address including ZIP code)

Please complete this form and RETURN TO ➧ **BUREAU OF THE CENSUS**
Industry Division
Washington, D.C. 20233

YOUR FILE COPY

PRODUCTS MADE IN THIS ESTABLISHMENT DURING 1977

INSTRUCTIONS FOR TOTAL PRODUCTION

Column (D) — Quantity — Report where appropriate the quantity of all products you made in this institution during 1977. Include products produced for use within the institution and products transferred to other branches of your government.

Column (E) — Value — Report at approximate market value all products, either used within the institution or transferred to other governmental units.

Line No.	Product (A)	Unit of measure (B)	Total production: Quantity (D)	Total production: Value *(Thousands of dollars)* (E)	Census product code (J)
1	Meat and meat products			$	201
2	Canned foods				203
3	Coffee and tea				209
4	Tobacco, chewing and smoking				213
5	Blankets				221
6	Woven fabrics	1,000 lbs.			223
7	Cordage and twine	Thousand linear yards			229
8	Apparel and clothing, including uniforms, coats, etc.				230
9	Sheets and pillowcases				232
10	Canvas specialties				239
11	Mattresses				251
12	Wooden furniture				253
13	Printing and binding				275
14	Soaps				284
15	Paints				285
16	Shoes	Pairs			314
17	Brick — Clay	Thousand brick			325
18	Brick — Concrete	Thousand brick			326
19	Concrete blocks	Thousand block 8"×8"×16" equivalent			327
20	Motor vehicle license plates *(Count a set of front and rear plates as two plates)*	Number			346
21	Highway and road signs				399
22	Miscellaneous metal products				349
23	Brooms and brushes				399
24	Prepared animal feeds				204
25	All other products — *Specify kind and unit of measure*				
26					
27					
28					
29					
30	TOTAL *(Sum of lines 1–29)* ➧			$	

Remarks — *Please use this space for any explanation that may be essential in understanding your reported data.*

CERTIFICATION

This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report	Telephone: Area code	Number	Extension

Period covered → **From:** *(Mo., day, Yr.)* **To:** *(Mo., day, Yr.)*

Address — *Number and street*

Signature of authorized person

City	State	ZIP code	Title	Date

APPENDIX E. Authority for Census: Title 13, United States Code

COLLECTION AND PUBLICATION: Five-year periods (131)

The Secretary shall take, compile, and publish censuses of manufactures, of mineral industries, and of other businesses . . . in the year 1964, then in the year 1968, and every fifth year thereafter, and each such census shall relate to the year immediately preceding the taking thereof.

Geographic scope of censuses (191a)

(a) Each of the censuses authorized by this chapter shall include each State, the District of Columbia, the Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and the Commonwealth of Puerto Rico, and as may be determined by the Secretary, such other possessions and areas over which the United States exercises jurisdiction, control, or sovereignty. Inclusion of the other areas over which the United States exercises jurisdiction or control shall be subject to the concurrence of the Secretary of State.

Wrongful Disclosure of Information (214)

Whoever, being or having been an employee or staff member referred to in subchapter II of chapter I of this title, having taken and subscribed the oath of office, or having sworn to observe the limitations imposed by section 9 of this title, publishes or communicates any information, the disclosure of which is prohibited under the provisions of section 9 of this title, and which comes into his possession by reason of his being employed (or otherwise providing services) under the provisions of this title, shall be fined not more than $5,000 or imprisoned not more than 5 years, or both.

FAILURE TO ANSWER QUESTIONS AFFECTING COMPANIES, BUSINESSES, RELIGIOUS BODIES, AND OTHER ORGANIZATIONS: FALSE ANSWERS (224)

Whoever, being the owner, official, agent, person in charge, or assistant to the person in charge, of any company, business, institution, establishment, religious body, or organization of any nature whatsoever, neglects or refuses, when requested by the Secretary or other authorized officer or employee of the Department of Commerce or bureau or agency thereof, to answer completely and correctly to the best of his knowledge all questions relating to his company, business, institution, establishment, religious body, or other organization, or to records or statistics in his official custody, contained on any census or other schedule or questionnaire prepared and submitted to him under the authority of this title, shall be fined not more than $500; and if he willfully gives a false answer to any such question, he shall be fined not more than $10,000.

APPENDIX F. Standard Consolidated Statistical Areas and Standard Metropolitan Statistical Areas

(Titles and definitions of the SCSA's and the SMSA's in the United States established by the Department of Commerce, Office of Federal Statistical Policy and Standards, as of December 1977)

Standard Consolidated Statistical Areas

Boston-Lawrence-Lowell, Mass.-N.H.	Consists of Boston, Mass., SMSA; Lawrence-Haverhill, Mass.-N.H., SMSA; Lowell, Mass.-N.H., SMSA; and Brockton, Mass., SMSA
Chicago-Gary, Ill.-Ind.[1]	Consists of Chicago, Ill., SMSA, and Gary-Hammond-East Chicago, Ind., SMSA
Cincinnati-Hamilton, Ohio-Ky.-Ind.	Consists of Cincinnati, Ohio-Ky.-Ind., SMSA, and Hamilton-Middletown, Ohio, SMSA
Cleveland-Akron-Lorain, Ohio	Consists of Cleveland, Ohio, SMSA; Akron, Ohio, SMSA; and Lorain-Elyria, Ohio, SMSA
Detroit-Ann Arbor, Mich.	Consists of Detroit, Mich., SMSA, and Ann Arbor, Mich., SMSA
Houston-Galveston, Tex.	Consists of Houston, Tex., SMSA, and Galveston-Texas City, Tex., SMSA
Los Angeles-Long Beach-Anaheim, Calif	Consists of Los Angeles-Long Beach, Calif., SMSA; Anaheim-Santa Ana-Garden Grove, Calif., SMSA; Riverside-San Bernardino-Ontario, Calif., SMSA; and Oxnard-Simi Valley-Ventura, Calif., SMSA
Miami-Fort Lauderdale, Fla.	Consists of Miami, Fla., SMSA, and Fort Lauderdale-Hollywood, Fla., SMSA
Milwaukee-Racine, Wis.	Consists of Milwaukee, Wis., SMSA, and Racine, Wis., SMSA
New York-Newark-Jersey City, N.Y.-N.J.-Conn.[2]	Consists of New York, N.Y.-N.J., SMSA; Nassau-Suffolk, N.Y., SMSA; Newark, N.J., SMSA; Jersey City, N.J., SMSA; New Brunswick-Perth Amboy-Sayreville, N.J., SMSA; Paterson-Clifton-Passaic, N.J., SMSA; Long Branch-Asbury Park, N.J., SMSA; Stamford, Conn., SMSA; and Norwalk, Conn., SMSA
Philadelphia-Wilmington-Trenton, Pa.-Del.-N.J.-Md.	Consists of Philadelphia, Pa.-N.J., SMSA; Wilmington, Del.-N.J.-Md., SMSA, and Trenton, N.J., SMSA
San Francisco-Oakland-San Jose, Calif.	Consists of San Francisco-Oakland, Calif., SMSA; San Jose, Calif., SMSA, and Vallejo-Fairfield-Napa, Calif., SMSA
Seattle-Tacoma, Wash.	Consists of Seattle-Everett, Wash., SMSA, and Tacoma, Wash., SMSA

Standard Metropolitan Statistical Areas

Abilene, Tex.	Consists of Callahan, Jones, and Taylor Counties, Tex.
Akron, Ohio	Consists of Portage and Summit Counties, Ohio
Albany, Ga.	Consists of Dougherty and Lee Counties, Ga.
Albany-Schenectady-Troy, N.Y.	Consists of Albany, Montgomery, Rensselaer, Saratoga, and Schenectady Counties, N.Y.
Albuquerque, N. Mex.	Consists of Bernalillo and Sandoval Counties, N. Mex.
Alexandria, La.	Consists of Grant and Rapides Parishes, La.
Allentown-Bethlehem-Easton, Pa.-N.J.	Consists of Carbon, Lehigh, and Northampton Counties, Pa.; and Warren County, N.J.
Altoona, Pa.	Coextensive with Blair County, Pa.
Amarillo, Tex.	Consists of Potter and Randall Counties, Tex.
Anaheim-Santa Ana-Garden Grove, Calif.	Coextensive with Orange County, Calif.
Anchorage, Alaska	Coextensive with Anchorage Division, Alaska
Anderson, Ind.	Coextensive with Madison County, Ind.
Ann Arbor, Mich.	Coextensive with Washtenaw County, Mich.
Anniston, Ala.[3]	Coextensive with Calhoun County, Ala.
Appleton-Oshkosh, Wis.	Consists of Calumet, Outagamie, and Winnebago Counties, Wis.
Asheville, N.C.	Consists of Buncombe and Madison Counties, N.C.
Atlanta, Ga.	Consists of Butts, Cherokee, Clayton, Cobb, De Kalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, and Walton Counties, Ga.

See footnotes at end of appendix.

SMSA'S—Con.

Atlantic City, N.J.	Coextensive with Atlantic County, N.J.
Augusta, Ga.-S.C.	Consists of Columbia and Richmond Counties, Ga., and Aiken County, S.C.
Austin, Tex.[4]	Consists of Hays, Travis, and Williamson Counties, Tex.
Bakersfield, Calif.	Coextensive with Kern County, Calif.
Baltimore, Md.	Consists of Baltimore[5] city and Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties, Md.
Baton Rouge, La.	Consists of Ascension, East Baton Rouge, Livingston, and West Baton Rouge Parishes, La.
Battle Creek, Mich.	Consists of Barry and Calhoun Counties, Mich.
Bay City, Mich.	Coextensive with Bay County, Mich.
Beaumont-Port Arthur-Orange, Tex.	Consists of Hardin, Jefferson, and Orange Counties, Tex.
Billings, Mont.	Coextensive with Yellowstone County, Mont.
Biloxi-Gulfport, Miss.	Consists of Hancock, Harrison, and Stone Counties, Miss.
Binghamton, N.Y.-Pa.	Consists of Broome and Tioga Counties, N.Y., and Susquehanna County, Pa.
Birmingham, Ala.	Consists of Jefferson, St. Clair, Shelby, and Walker Counties, Ala.
Bloomington, Ind.[3]	Coextensive with Monroe County, Ind.
Bloomington-Normal, Ill.	Coextensive with McLean County, Ill.
Boise City, Idaho	Coextensive with Ada County, Idaho
Boston, Mass.	Consists of Beverly, Lynn, Peabody, and Salem cities, and Boxford, Danvers, Hamilton, Lynnfield, Manchester, Marblehead, Middleton, Nahant, Saugus, Swampscott, Topsfield, and Wenham towns in Essex County; Cambridge, Everett, Malden, Medford, Melrose, Newton, Somerville, Waltham, and Woburn cities, and Acton, Arlington, Ashland, Bedford, Belmont, Boxborough; Burlington, Carlisle, Concord, Framingham, Holliston, Lexington, Lincoln, Natick, North Reading, Reading, Sherborn, Stoneham, Sudbury, Wakefield, Watertown, Wayland, Weston, Wilmington, and Winchester towns in Middlesex County; Quincy city, and Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxborough, Franklin, Holbrook, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Randolph, Sharon, Stoughton, Walpole, Wellesley, Westwood, Weymouth, and Wrentham towns in Norfolk County; Abington, Duxbury, Hanover, Hanson, Hingham, Hull, Kingston, Marshfield, Norwell, Pembroke, Rockland, Scituate towns in Plymouth County; and Boston, Chelsea, and Revere cities, and Winthrop town in Suffolk County, Mass.
Bradenton, Fla.[3]	Coextensive with Manatee County, Fla.
Bridgeport, Conn.	Consists of Bridgeport and Shelton cities, and Easton, Fairfield, Monroe, Stratford, and Trumbull towns in Fairfield County; and Derby and Milford cities in New Haven County, Conn.
Bristol, Conn.	Consists of Bristol city and Burlington town in Hartford County, and Plymouth town in Litchfield County, Conn.
Brockton, Mass.	Consists of Easton town in Bristol County; Avon town in Norfolk County; and Brockton city, and Bridgewater, East Bridgewater, Halifax, West Bridgewater, and Whitman towns in Plymouth County, Mass.
Brownsville-Harlingen-San Benito, Tex.	Coextensive with Cameron County, Tex.
Bryan-College Station, Tex.	Coextensive with Brazos County, Tex.
Buffalo, N.Y.	Consists of Erie and Niagara Counties, N.Y.
Burlington, N.C.	Coextensive with Alamance County, N.C.
Canton, Ohio	Consists of Carroll and Stark Counties, Ohio
Cedar Rapids, Iowa	Coextensive with Linn County, Iowa
Champaign-Urbana-Rantoul, Ill.	Coextensive with Champaign County, Ill.
Charleston-North Charleston, S.C.[6]	Consists of Berkeley, Charleston, and Dorchester Counties, S.C.
Charleston, W. Va.	Consists of Kanawha and Putnam Counties, W. Va.
Charlotte-Gastonia, N.C.	Consists of Gaston, Mecklenburg, and Union Counties, N.C.

See footnotes at end of appendix.

SMSA'S—Con.

Chattanooga, Tenn.-Ga.	Consists of Hamilton, Marion, and Sequatchie Counties, Tenn.; and Catoosa, Dade, and Walker Counties, Ga.
Chicago, Ill.	Consists of Cook, Du Page, Kane, Lake, McHenry, and Will Counties, Ill.
Cincinnati, Ohio-Ky.-Ind.	Consists of Clermont, Hamilton, and Warren Counties, Ohio; Boone, Campbell, and Kenton Counties, Ky.; and Dearborn County, Ind.
Clarksville-Hopkinsville, Tenn.-Ky.[3]	Consists of Montgomery County, Tenn. and Christian County, Ky.
Cleveland, Ohio	Consists of Cuyahoga, Geauga, Lake, and Medina Counties, Ohio
Colorado Springs, Colo.	Consists of El Paso and Teller Counties, Colo.
Columbia, Mo.	Coextensive with Boone County, Mo.
Columbia, S.C.	Consists of Lexington and Richland Counties, S.C.
Columbus, Ga.-Ala.	Consists of Chattahoochee County and Columbus[5] (consolidated government), Ga., and Russell County, Ala.
Columbus, Ohio	Consists of Delaware, Fairfield, Franklin, Madison, and Pickaway Counties, Ohio
Corpus Christi, Tex.	Consists of Nueces and San Patricio Counties, Tex.
Dallas-Fort Worth, Tex.	Consists of Collin, Dallas, Denton, Ellis, Hood, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties, Tex.
Danbury, Conn.	Consists of Danbury city and Bethel, Brookfield, New Fairfield, Newtown, and Redding towns in Fairfield County; and New Milford town in Litchfield County, Conn.
Davenport-Rock Island-Moline, Iowa-Ill.	Consists of Scott County, Iowa and Henry and Rock Island Counties, Ill.
Dayton, Ohio	Consists of Greene, Miami, Montgomery, and Preble Counties, Ohio
Daytona Beach, Fla.	Coextensive with Volusia County, Fla.
Decatur, Ill.	Coextensive with Macon County, Ill.
Denver-Boulder, Colo.	Consists of Adams, Arapahoe, Boulder, Denver, Douglas, Gilpin, and Jefferson Counties, Colo.
Des Moines, Iowa	Consists of Polk and Warren Counties, Iowa
Detroit, Mich.	Consists of Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne Counties, Mich.
Dubuque, Iowa	Coextensive with Dubuque County, Iowa
Duluth-Superior, Minn.-Wis.	Consists of St. Louis County, Minn. and Douglas County, Wis.
Eau Claire, Wis.[3]	Consists of Chippewa and Eau Claire Counties, Wis.
El Paso, Tex.	Coextensive with El Paso County, Tex.
Elmira, N.Y.	Coextensive with Chemung County, N.Y.
Erie, Pa.	Coextensive with Erie County, Pa.
Eugene-Springfield, Oreg.	Coextensive with Lane County, Oreg.
Evansville, Ind.-Ky.	Consists of Gibson, Posey, Vanderburgh, and Warrick Counties, Ind. and Henderson County, Ky.
Fall River, Mass.-R.I.	Consists of Fall River city and Dighton, Somerset, Swansea, and Westport towns in Bristol County, Mass.; and Little Compton, Portsmouth, and Tiverton towns in Newport County, R.I.
Fargo-Moorhead, N. Dak.-Minn.	Consists of Cass County, N. Dak. and Clay County, Minn.
Fayetteville, N.C.	Coextensive with Cumberland County, N.C.
Fayetteville-Springdale, Ark.	Consists of Benton and Washington Counties, Ark.
Fitchburg-Leominster, Mass.	Consists of Shirley and Townsend towns in Middlesex County, and Fitchburg and Leominster cities and Lunenburg and Westminster towns in Worcester County, Mass.
Flint, Mich.	Consists of Genesee and Shiawassee Counties, Mich.
Florence, Ala.	Consists of Colbert and Lauderdale Counties, Ala.
Fort Collins, Colo.[3]	Coextensive with Larimer County, Colo.
Fort Lauderdale-Hollywood, Fla.	Coextensive with Broward County, Fla.
Fort Myers, Fla.	Coextensive with Lee County, Fla.
Fort Smith, Ark.-Okla.	Consists of Crawford and Sebastian Counties, Ark. and Le Flore and Sequoyah Counties, Okla.

See footnotes at end of appendix.

SMSA'S—Con.

Fort Wayne, Ind.	Consists of Adams, Allen, De Kalb, and Wells Counties, Ind.
Fresno, Calif.	Coextensive with Fresno County, Calif.
Gadsden, Ala.	Coextensive with Etowah County, Ala.
Gainesville, Fla.	Coextensive with Alachua County, Fla.
Galveston-Texas City, Tex.	Coextensive with Galveston County, Tex.
Gary-Hammond-East Chicago, Ind.	Consists of Lake and Porter Counties, Ind.
Grand Forks, N. Dak.-Minn.[3]	Consists of Grand Forks County, N. Dak. and Polk County, Minn.
Grand Rapids, Mich.	Consists of Kent and Ottawa Counties, Mich.
Great Falls, Mont.	Coextensive with Cascade County, Mont.
Greeley, Colo.[3]	Coextensive with Weld County, Colo.
Green Bay, Wis.	Coextensive with Brown County, Wis.
Greensboro—Winston-Salem—High Point, N.C.	Consists of Davidson, Forsyth, Guilford, Randolph, Stokes, and Yadkin Counties, N.C.
Greenville-Spartanburg, S.C.	Consists of Greenville, Pickens, and Spartanburg Counties, S.C.
Hamilton-Middletown, Ohio	Coextensive with Butler County, Ohio
Harrisburg, Pa.	Consists of Cumberland, Dauphin, and Perry Counties, Pa.
Hartford, Conn.	Consists of Hartford city and Avon, Bloomfield, Canton, East Granby, East Hartford, East Windsor, Enfield, Farmington, Glastonbury, Granby, Manchester, Marlborough, Newington, Rocky Hill, Simsbury, South Windsor, Suffield, West Hartford, Wethersfield, Windsor, and Windsor Locks towns in Hartford County; New Hartford town in Litchfield County; Cromwell, East Hampton, and Portland towns in Middlesex County; Colchester town in New London County; and Andover, Bolton, Columbia, Coventry, Ellington, Hebron, Stafford, Tolland, Vernon, and Willington towns in Tolland County, Conn.
Honolulu, Hawaii	Coextensive with Honolulu County, Hawaii
Houston, Tex.	Consists of Brazoria, Fort Bend, Harris, Liberty, Montgomery, and Waller Counties, Tex.
Huntington-Ashland, W. Va.-Ky.-Ohio	Consists of Cabell and Wayne Counties, W. Va.; Boyd and Greenup Counties, Ky.; and Lawrence County, Ohio
Huntsville, Ala.	Consists of Limestone, Madison, and Marshall Counties, Ala.
Indianapolis, Ind.	Consists of Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan, and Shelby Counties, Ind.
Jackson, Mich.	Coextensive with Jackson County, Mich.
Jackson, Miss.	Consists of Hinds and Rankin Counties, Miss.
Jacksonville, Fla.	Consists of Baker, Clay, Duval, Nassau, and St. Johns Counties, Fla.
Jersey City, N.J.	Coextensive with Hudson County, N.J.
Johnson City-Kingsport-Bristol, Tenn.-Va.[7]	Consists of Carter, Hawkins, Sullivan, Unicoi, and Washington Counties, Tenn., and Bristol[5] city and Scott and Washington Counties, Va.
Johnstown, Pa.	Consists of Cambria and Somerset Counties, Pa.
Kalamazoo-Portage, Mich.	Consists of Kalamazoo and Van Buren Counties, Mich.
Kankakee, Ill.[3]	Coextensive with Kankakee County, Ill.
Kansas City, Mo.-Kans.	Consists of Cass, Clay, Jackson, Platte, and Ray Counties, Mo., and Johnson and Wyandotte Counties, Kans.
Kenosha, Wis.	Coextensive with Kenosha County, Wis.
Killeen-Temple, Tex.	Consists of Bell and Coryell Counties, Tex.
Knoxville, Tenn.	Consists of Anderson, Blount, Knox, and Union Counties, Tenn.
Kokomo, Ind.[3]	Consists of Howard and Tipton Counties, Ind.
La Crosse, Wis.	Coextensive with La Crosse County, Wis.
Lafayette, La.	Coextensive with Lafayette Parish, La.
Lafayette-West Lafayette, Ind.	Coextensive with Tippecanoe County, Ind.
Lake Charles, La.	Coextensive with Calcasieu Parish, La.

See footnotes at end of appendix.

SMSA'S—Con.

Lakeland-Winter Haven, Fla.	Coextensive with Polk County, Fla.
Lancaster, Pa.	Coextensive with Lancaster County, Pa.
Lansing-East Lansing, Mich.	Consists of Clinton, Eaton, Ingham, and Ionia Counties, Mich.
Laredo, Tex.	Coextensive with Webb County, Tex.
Las Vegas, Nev.	Coextensive with Clark County, Nev.
Lawrence, Kans.[5]	Coextensive with Douglas County, Kans.
Lawrence-Haverhill, Mass.-N.H.	Consists of Haverhill and Lawrence cities and Amesbury, Andover, Georgetown, Groveland, Merrimac, Methuen, North Andover, Salisbury, and West Newbury towns in Essex County, Mass. and Atkinson, Hampstead, Kingston, Newton, Plaistow, Salem, and Windham towns in Rockingham County, N.H.
Lawton, Okla.	Coextensive with Comanche County, Okla.
Lewiston-Auburn, Maine	Consists of Auburn and Lewiston cities and Lisbon town in Androscoggin County, Maine
Lexington-Fayette, Ky.[8]	Consists of Bourbon, Clark, Fayette, Jessamine, Scott, and Woodford Counties, Ky.
Lima, Ohio	Consists of Allen, Auglaize, Putnam, and Van Wert Counties, Ohio
Lincoln, Nebr.	Coextensive with Lancaster County, Nebr.
Little Rock-North Little Rock, Ark.	Consists of Pulaski and Saline Counties, Ark.
Long Branch-Asbury Park, N.J.	Coextensive with Monmouth County, N.J.
Longview, Tex.[3]	Consists of Gregg and Harrison Counties, Tex.
Lorain-Elyria, Ohio	Coextensive with Lorain County, Ohio
Los Angeles-Long Beach, Calif.	Coextensive with Los Angeles County, Calif.
Louisville, Ky-Ind.	Consists of Bullitt, Jefferson, and Oldham Counties, Ky. and Clark and Floyd Counties, Ind.
Lowell, Mass.-N.H.	Consists of Lowell city and Billerica, Chelmsford, Dracut, Tewksbury, Tyngsborough, and Westford towns in Middlesex County, Mass.; and Pelham town in Hillsborough County, N.H.
Lubbock, Tex.	Coextensive with Lubbock County, Tex.
Lynchburg, Va.	Consists of Lynchburg[5] city and Amherst, Appomattox, and Campbell Counties, Va.
Macon, Ga.	Consists of Bibb, Houston, Jones, and Twiggs Counties, Ga.
Madison, Wis.	Coextensive with Dane County, Wis.
Manchester, N.H.	Consists of Manchester city and Bedford and Goffstown towns in Hillsborough County; Allenstown, Hooksett, and Pembroke towns in Merrimack County; and Derry and Londonderry towns in Rockingham County, N.H.
Mansfield, Ohio	Coextensive with Richland County, Ohio
McAllen-Pharr-Edinburg, Tex.	Coextensive with Hidalgo County, Tex.
Melbourne-Titusville-Cocoa, Fla.	Coextensive with Brevard County, Fla.
Memphis, Tenn.-Ark.-Miss.	Consists of Shelby and Tipton Counties, Tenn.; Crittenden County, Ark.; and De Soto County, Miss.
Meriden, Conn.	Coextensive with Meriden city in New Haven County, Conn.
Miami, Fla.	Coextensive with Dade County, Fla.
Midland, Tex.	Coextensive with Midland County, Tex.
Milwaukee, Wis.	Consists of Milwaukee, Ozaukee, Washington, and Waukesha Counties, Wis.
Minneapolis-St. Paul, Minn.-Wis.	Consists of Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, Washington, and Wright Counties, Minn. and St. Croix County, Wis.
Mobile, Ala.	Consists of Baldwin and Mobile Counties, Ala.
Modesto, Calif.	Coextensive with Stanislaus County, Calif.
Monroe, La.	Coextensive with Ouachita Parish, La.
Montgomery, Ala.	Consists of Autauga, Elmore, and Montgomery Counties, Ala.
Muncie, Ind.	Coextensive with Delaware County, Ind.
Muskegon-North Shores-Muskegon Heights, Mich.[9]	Consists of Muskegon and Oceana Counties, Mich.

See footnotes at end of appendix.

SMSA'S—Con.

Nashua, N.H.	Consists of Nashua city and Amherst, Hudson, Merrimack, and Milford towns in Hillsborough County, N.H.
Nashville-Davidson, Tenn.	Consists of Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, and Wilson Counties, Tenn.
Nassau-Suffolk, N.Y.	Consists of Nassau and Suffolk Counties, N.Y.
New Bedford, Mass.	Consists of New Bedford city and Acushnet, Dartmouth, Fairhaven, and Freetown towns in Bristol County; and Lakeville, Marion, and Mattapoisett towns in Plymouth County, Mass.
New Britain, Conn.	Consists of New Britain city and Berlin, Plainville, and Southington towns in Hartford County, Conn.
New Brunswick-Perth Amboy-Sayreville, N.J.	Coextensive with Middlesex County, N.J.
New Haven-West Haven, Conn.[10]	Consists of Clinton town in Middlesex County; and New Haven and West Haven cities and Bethany, Branford, East Haven, Guilford, Hamden, Madison, North Branford, North Haven, Orange, Wallingford, and Woodbridge towns in New Haven County, Conn.
New London-Norwich, Conn.-R.I.	Consists of Old Saybrook town in Middlesex County; New London and Norwich cities and Bozrah, East Lyme, Griswold, Groton, Ledyard, Lisbon, Montville, Old Lyme, Preston, Sprague, Stonington, and Waterford towns in New London County, Conn.; and Hopkinton and Westerly towns in Washington County, R.I.
New Orleans, La.	Consists of Jefferson, Orleans, St. Bernard, and St. Tammany Parishes, La.
New York, N.Y.-N.J.	Consists of Bronx, Kings, New York, Putnam, Queens, Richmond, Rockland, and Westchester Counties, N.Y. and Bergen County, N.J.
Newark, N.J.	Consists of Essex, Morris, Somerset, and Union Counties, N.J.
Newport News-Hampton, Va.[11]	Consists of Hampton,[5] Newport News,[5] Poquoson,[5] and Williamsburg[5] cities and Gloucester, James City, and York Counties, Va.
Norfolk-Virginia Beach-Portsmouth, Va.-N.C.[12]	Consists of Chesapeake,[5] Norfolk,[5] Portsmouth,[5] Suffolk,[5] and Virginia Beach[5] cities, Va. and Currituck County, N.C.
Northeast Pennsylvania	Consists of Lackawanna, Luzerne, and Monroe Counties, Pa.
Norwalk, Conn.	Consists of Norwalk city and Weston, Westport, and Wilton towns in Fairfield County, Conn.
Odessa, Tex.	Coextensive with Ector County, Tex.
Oklahoma City, Okla.	Consists of Canadian, Cleveland, McClain, Oklahoma, and Pottawatomie Counties, Okla.
Omaha, Nebr.-Iowa	Consists of Douglas and Sarpy Counties, Nebr. and Pottawattamie County, Iowa
Orlando, Fla.	Consists of Orange, Osceola, and Seminole Counties, Fla.
Owensboro, Ky.	Coextensive with Daviess County, Ky.
Oxnard-Simi Valley-Ventura, Calif.	Coextensive with Ventura County, Calif.
Panama City, Fla.[3]	Coextensive with Bay County, Fla.
Parkersburg-Marietta, W. Va.-Ohio	Consists of Wirt and Wood Counties, W. Va. and Washington County, Ohio
Pascagoula-Moss Point, Miss.[3]	Coextensive with Jackson County, Miss.
Paterson-Clifton-Passaic, N.J.	Coextensive with Passaic County, N.J.
Pensacola, Fla.	Consists of Escambia and Santa Rosa Counties, Fla.
Peoria, Ill.	Consists of Peoria, Tazewell, and Woodford Counties, Ill.
Petersburg-Colonial Heights-Hopewell, Va.	Consists of Colonial Heights,[5] Hopewell,[5] and Petersburg[5] cities and Dinwiddie and Prince George Counties, Va.
Philadelphia, Pa.-N.J.	Consists of Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties, Pa.; and Burlington, Camden, and Gloucester Counties, N.J.
Phoenix, Ariz.	Coextensive with Maricopa County, Ariz.
Pine Bluff, Ark.	Coextensive with Jefferson County, Ark.
Pittsburgh, Pa.	Consists of Allegheny, Beaver, Washington, and Westmoreland Counties, Pa.
Pittsfield, Mass.	Consists of Pittsfield city and Adams, Cheshire, Dalton, Lanesborough, Lee, Lenox, and Stockbridge towns in Berkshire County, Mass.

See footnotes at end of appendix.

SMSA'S—Con.

Portland, Maine	Consists of Portland, South Portland, and Westbrook cities and Cape Elizabeth, Cumberland, Falmouth, Freeport, Gorham, Scarborough, Windham, and Yarmouth towns in Cumberland County; and Saco city and Old Orchard Beach town in York County, Maine
Portland, Oreg.-Wash.	Consists of Clackamas, Multnomah, and Washington Counties, Oreg. and Clark County, Wash.
Poughkeepsie, N.Y.	Coextensive with Dutchess County, N.Y.
Providence-Warwick-Pawtucket, R.I.-Mass.	Consists of Barrington, Bristol, and Warren towns in Bristol County; Warwick city and Coventry, East Greenwich, and West Warwick towns in Kent County; Jamestown town in Newport County; Central Falls, Cranston, East Providence, Pawtucket, Providence, and Woonsocket cities and Burrillville, Cumberland, Johnston, Lincoln, North Providence, North Smithfield, Scituate, and Smithfield towns in Providence County; and Narragansett, North Kingstown, and South Kingstown towns in Washington County, R.I.; Attleboro city and North Attleborough, Norton, Rehoboth, and Seekonk towns in Bristol County; Plainville town in Norfolk County; and Blackstone and Millville towns in Worcester County, Mass.
Provo-Orem, Utah	Coextensive with Utah County, Utah
Pueblo, Colo.	Coextensive with Pueblo County, Colo.
Racine, Wis.	Coextensive with Racine County, Wis.
Raleigh-Durham, N.C.	Consists of Durham, Orange, and Wake Counties, N.C.
Reading, Pa.	Coextensive with Berks County, Pa.
Reno, Nev.	Coextensive with Washoe County, Nev.
Richland-Kennewick, Wash.	Consists of Benton and Franklin Counties, Wash.
Richmond, Va.[1 3]	Consists of Richmond[5] city and Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, and Powhatan Counties, Va.
Riverside-San Bernardino-Ontario, Calif.	Consists of Riverside and San Bernardino Counties, Calif.
Roanoke, Va.	Consists of Roanoke[5] and Salem[5] cities and Botetourt, Craig, and Roanoke Counties, Va.
Rochester, Minn.	Coextensive with Olmsted County, Minn.
Rochester, N.Y.	Consists of Livingston, Monroe, Ontario, Orleans, and Wayne Counties, N.Y.
Rockford, Ill.	Consists of Boone and Winnebago Counties, Ill.
Sacramento, Calif.	Consists of Placer, Sacramento, and Yolo Counties, Calif.
Saginaw, Mich.	Coextensive with Saginaw County, Mich.
St. Cloud, Minn.	Consists of Benton, Sherburne, and Stearns Counties, Minn.
St. Joseph, Mo.	Consists of Andrew and Buchanan Counties, Mo.
St. Louis, Mo.-Ill.	Consists of St. Louis[5] city and Franklin, Jefferson, St. Charles, and St. Louis Counties, Mo.; and Clinton, Madison, Monroe, and St. Clair Counties, Ill.
Salem, Oreg.	Consists of Marion and Polk Counties, Oreg.
Salinas-Seaside-Monterey, Calif.	Coextensive with Monterey County, Calif.
Salt Lake City-Ogden, Utah	Consists of Davis, Salt Lake, Tooele, and Weber Counties, Utah
San Angelo, Tex.	Coextensive with Tom Green County, Tex.
San Antonio, Tex.	Consists of Bexar, Comal, and Guadalupe Counties, Tex.
San Diego, Calif.	Coextensive with San Diego County, Calif.
San Francisco-Oakland, Calif.	Consists of Alameda, Contra Costa, Marin, San Francisco, and San Mateo Counties, Calif.
San Jose, Calif.	Coextensive with Santa Clara County, Calif.
Santa Barbara-Santa Maria-Lompoc, Calif.	Coextensive with Santa Barbara County, Calif.
Santa Cruz, Calif.	Coextensive with Santa Cruz County, Calif
Santa Rosa, Calif.	Coextensive with Sonoma County, Calif.
Sarasota, Fla.	Coextensive with Sarasota County, Fla.
Savannah, Ga.	Consists of Bryan, Chatham, and Effingham Counties, Ga.
Seattle-Everett, Wash.	Consists of King and Snohomish Counties, Wash.

See footnotes at end of appendix.

SMSA'S—Con.

Sherman-Denison, Tex.	Coextensive with Grayson County, Tex.
Shreveport, La.	Consists of Bossier, Caddo, and Webster Parishes, La.
Sioux City, Iowa-Nebr.	Consists of Woodbury County, Iowa and Dakota County, Nebr.
Sioux Falls, S. Dak.	Coextensive with Minnehaha County, S. Dak.
South Bend, Ind.	Consists of Marshall and St. Joseph Counties, Ind.
Spokane, Wash.	Coextensive with Spokane County, Wash.
Springfield, Ill.	Consists of Menard and Sangamon Counties, Ill.
Springfield, Mo.	Consists of Christian and Greene Counties, Mo.
Springfield, Ohio	Consists of Champaign and Clark Counties, Ohio
Springfield-Chicopee-Holyoke, Mass.-Conn.	Consists of Chicopee, Holyoke, Springfield, and Westfield cities and Agawam, East Longmeadow, Hampden, Longmeadow, Ludlow, Monson, Palmer, Southwick, West Springfield, and Wilbraham towns in Hampden County; Northampton city and Belchertown, Easthampton, Granby, Hadley, Hatfield, Southampton, and South Hadley towns in Hampshire County; Warren town in Worcester County, Mass.; and Somers town in Tolland County, Conn.
Stamford, Conn.	Consists of Stamford city and Darien, Greenwich, and New Canaan towns in Fairfield County, Conn.
Steubenville-Weirton, Ohio-W. Va.	Consists of Jefferson County, Ohio and Brooke and Hancock Counties, W. Va.
Stockton, Calif.	Coextensive with San Joaquin County, Calif.
Syracuse, N.Y.	Consists of Madison, Onondaga, and Oswego Counties, N.Y.
Tacoma, Wash.	Coextensive with Pierce County, Wash.
Tallahassee, Fla.	Consists of Leon and Wakulla Counties, Fla.
Tampa-St. Petersburg, Fla.	Consists of Hillsborough, Pasco, and Pinellas Counties, Fla.
Terre Haute, Ind.	Consists of Clay, Sullivan, Vermillion, and Vigo Counties, Ind.
Texarkana, Tex.-Texarkana, Ark.	Consists of Bowie County, Tex. and Little River and Miller Counties, Ark.
Toledo, Ohio-Mich.	Consists of Fulton, Lucas, Ottawa, and Wood Counties, Ohio and Monroe County, Mich.
Topeka, Kans.	Consists of Jefferson, Osage, and Shawnee Counties, Kans.
Trenton, N.J.	Coextensive with Mercer County, N.J.
Tucson, Ariz.	Coextensive with Pima County, Ariz.
Tulsa, Okla.	Consists of Creek, Mayes, Osage, Rogers, Tulsa, and Wagoner Counties, Okla.
Tuscaloosa, Ala.	Coextensive with Tuscaloosa County, Ala.
Tyler, Tex.	Coextensive with Smith County, Tex.
Utica-Rome, N.Y.	Consists of Herkimer and Oneida Counties, N.Y.
Vallejo-Fairfield-Napa, Calif.	Consists of Napa and Solano Counties, Calif.
Vineland-Millville-Bridgeton, N.J.	Coextensive with Cumberland County, N.J.
Waco, Tex.	Coextensive with McLennan County, Tex.
Washington, D.C.-Md.-Va.[14]	Consists of District of Columbia; Charles, Montgomery, and Prince Georges Counties, Md; and Alexandria,[5] Fairfax,[5] Falls Church,[5] Manassas,[5] and Manassas Park[5] cities and Arlington, Fairfax, Loudoun, and Prince William Counties, Va.
Waterbury, Conn.	Consists of Thomaston, Watertown, and Woodbury towns in Litchfield County; and Waterbury city, Naugatuck borough, and Beacon Falls, Cheshire, Middlebury, Prospect, Southbury, and Wolcott towns in New Haven County, Conn.
Waterloo-Cedar Falls, Iowa	Coextensive with Black Hawk County, Iowa
West Palm Beach-Boca Raton, Fla.	Coextensive with Palm Beach County, Fla.
Wheeling, W. Va.-Ohio	Consists of Marshall and Ohio Counties, W. Va. and Belmont County, Ohio
Wichita, Kans.	Consists of Butler and Sedgwick Counties, Kans.
Wichita Falls, Tex.	Consists of Clay and Wichita Counties, Tex.
Williamsport, Pa.	Coextensive with Lycoming County, Pa.
Wilmington, Del.-N.J.-Md.	Consists of New Castle County, Del.; Salem County, N.J.; and Cecil County, Md.
Wilmington, N.C.	Consists of Brunswick and New Hanover Counties, N.C.

See footnotes at end of appendix.

SMSA'S—Con.

Worcester, Mass.	Consists of Worcester city and Auburn, Berlin, Boylston, Brookfield, Charlton, East Brookfield, Grafton, Holden, Leicester, Millbury, Northborough, Northbridge, North Brookfield, Oxford, Paxton, Shrewsbury, Spencer, Sterling, Sutton, Upton, Uxbridge, Webster, Westborough, and West Boylston towns in Worcester County, Mass.
Yakima, Wash.	Coextensive with Yakima County, Wash.
York, Pa.	Consists of Adams and York Counties, Pa.
Youngstown-Warren, Ohio	Consists of Mahoning and Trumbull Counties, Ohio

[1] Retitled from Chicago-Northeastern Indiana SCA since 1972 Economic Censuses; but no boundary change.
[2] Includes New York-Northeastern New Jersey SCA and Long Branch-Asbury Park, N.J., Stamford, Conn., and Norwalk, Conn., SMSA's added since 1972 Economic Censuses.
[3] Newly designated SMSA since 1972 Economic Censuses.
[4] Williamson County, Tex. added since 1972 Economic Censuses.
[5] Independent of any county and considered a county equivalent.
[6] Retitled from Charleston, S.C., SMSA since 1972 Economic Censuses.
[7] Retitled from Kingsport-Bristol, Tenn.-Va., SMSA and Carter, Unicorn, and Washington Counties, Tenn., added since 1972 Economic Censuses.
[8] Retitled from Lexington, Ky., SMSA since 1972 Economic Censuses.
[9] Retitled from Muskegon-Muskegon Heights, Mich., SMSA since 1972 Economic Censuses.
[10] Killingworth town in Middlesex County was deleted since 1972 Economic Censuses.
[11] Poquoson city was added since 1972 Economic Censuses.
[12] Nansemond city was deleted since 1972 Economic Censuses.
[13] New Kent County added since 1972 Economic Censuses.
[14] Manassas and Manassas Park cities added since 1972 Economic Censuses.

Abbreviations Used for State Names
(Alaska, Hawaii, Idaho, Iowa, Maine, Ohio and Utah are not abbreviated)

Ala.	Alabama	Ind.	Indiana	N.C.	North Carolina	R.I.	Rhode Island
Ariz.	Arizona	Kans.	Kansas	N. Dak.	North Dakota	S.C.	South Carolina
Ark.	Arkansas	Ky.	Kentucky	Nebr.	Nebraska	S. Dak.	South Dakota
Calif.	California	La.	Louisiana	Nev.	Nevada	Tenn.	Tennessee
Colo.	Colorado	Mass.	Massachusetts	N.H.	New Hampshire	Tex.	Texas
Conn.	Connecticut	Md.	Maryland	N.J.	New Jersey	Va.	Virginia
D.C.	District of Columbia	Mich.	Michigan	N. Mex.	New Mexico	Vt.	Vermont
Del.	Delaware	Minn.	Minnesota	N.Y.	New York	Wash.	Washington
Fla.	Florida	Miss.	Mississippi	Okla.	Oklahoma	Wis.	Wisconsin
Ga.	Georgia	Mo.	Missouri	Oreg.	Oregon	W. Va.	West Virginia
Ill.	Illinois	Mont.	Montana	Pa.	Pennsylvania	Wyo.	Wyoming

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